M E E T I N G R E P O R T

29 March to 1 April 1998
Nairobi, Kenya

Prevention and Control of Cervical Cancer in the East and Southern Africa Region

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Pamela Greene
Harshad Sanghvi
Co-chairs, Organising Committee

Editors' Notes

Because of space limitations, all papers and presentations have been summarised except for Professor Mati's keynote address, which is reproduced in full. Each lead author received an advance copy of the summarised paper to review and correct, as needed. For more information about the individual papers or to request full copies of the original papers, please contact the author directly (see the Participant List in the Appendix). We have changed the terminology related to visual inspection to use the recently agreed terminology of "visual inspection with acetic acid" (VIA) and "visual inspection with acetic acid and magnification" (VIAM) in place of the variety of terms ("direct visual inspection" [DVI], "unaided visual inspection" [UVI], "aided visual inspection" [AVI]) that were used during the meeting. There were no papers available from the Poster Session, since most of the posters were expanded versions of meeting presentations. Nor are there any papers from the Clinical Demonstration Session (concurrent with the Poster Session), during which participants had a chance to try out a colposcope, an AviScope™ device (for VIAM), and a cryotherapy unit. If we have misunderstood or misrepresented any comments made during the various discussion sessions, we offer our sincere apologies. We would like to thank the authors of the various papers and our colleagues on the organising committee for reviewing various parts of this document, although any remaining errors are the responsibility of the editors.

Vivien Tsu
Jennifer L. Winkler
Seattle, November 1998

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Executive Summary

Cervical cancer has had a devastating impact on women around the world. It is the leading cause of death from cancer among women in developing countries. World wide, approximately 400,000 cases of cancer of the cervix occur annually, and about 200,000 women die of the disease each year. The *Prevention and Control of Cervical Cancer* meeting reported here was convened by seven organisations working in East Africa, because of a growing awareness of the importance of cervical cancer in the developing world and a recognition that new technologies and programmatic strategies may now enable countries to overcome some of the obstacles that have previously prevented them from taking effective action. At the 1997 Regional Health Ministers Conference in Mozambique, members of the Commonwealth Regional Health Community of East, Central and Southern Africa noted the high prevalence of cervical cancer in the region and resolved to work actively towards early detection and treatment of cervical cancer.

The meeting in Nairobi was an action-oriented meeting designed to increase awareness of cervical cancer as a public health problem and to enable national teams to develop country-specific frameworks for implementing cost-effective and feasible cervical cancer control programmes. The meeting brought together representatives from 15 African countries to share information on recent research findings, unresolved technical questions, country experiences, and lessons learnt, and to reach a consensus on future action for the region.

Findings from a recently concluded study in Zimbabwe and ongoing studies in South Africa indicate that screening methods like visual inspection with acetic acid (VIA) may be viable alternatives to Pap smears. While VIA appears to be nearly as sensitive as cytology, its lower specificity (higher rate of false positives) was of concern; further investigation was recommended, including research into possible two-stage screening approaches (employing a second, more specific method in conjunction with VIA) which could allow for treatment without colposcopic triage. Countries were urged to set the target starting age for screening at no more than ten years younger than the peak age for invasive cancer (based on reliable registry or population-based data). Since community acceptance of screening is a major determinant of coverage, a better understanding of the cultural factors affecting attitudes to gynaecological problems and use of health services by women also was emphasised.

With regard to the treatment of precancerous lesions in low resource settings, the relative merits (effectiveness, safety, ease of use and costs) of loop excision (LEEP) and cryotherapy were discussed. It was agreed that these outpatient modes of treatment offer real advantages over conisation and hysterectomy, the methods most commonly used now. New data suggest that treatment of precancerous lesions may temporarily increase the risk of HIV shedding. This makes the issue of unnecessary treatment (due to screening test false-positives) even more important and highlights the need both for proper infection prevention measures during screening and treatment and for appropriate counselling of patients on post-treatment care. The lack of facilities for treatment of invasive cancer was reported by all countries, but it was agreed that, where resources are limited, strategies to prevent cancer (by screening and treating its precursors) should be given priority over treatment for advanced cancer.

Executive Summary

A report of situation analyses conducted in five countries in the region revealed a common set of programmatic problems, including poor access to both screening and treatment services (particularly at the primary care level), lack of trained staff (and inadequate use of non-physicians such as trained nurse-midwives), poor record keeping and information systems and lack of appropriate policy guidelines. Findings from a cost-modelling study in South Africa showed that maintaining screening coverage and selecting an appropriate target age group had a great influence on the cost-effectiveness of screening programmes (in this case, screening women 35 to 59 years was the most cost-effective approach). This type of modelling was seen as a useful tool, both for decision making and for advocacy. A set of four minimum programme goals was proposed: increasing awareness of cervical cancer among women aged 35 to 50, screening all women aged 35 to 50 at least once before expanding services, treating women with high-grade dysplasia and offering therapy or palliative care for those with invasive cancer and collecting basic statistics for programme monitoring and evaluation.

Each country presented a profile of available epidemiological data, current screening and treatment services, existing policies and any future plans regarding cervical cancer control. Participants then divided into groups to discuss the following issues: policy; advocacy and information, education and communication (IEC); screening and treatment services; training and research and evaluation. Recommendations from these breakout groups were used by the national teams when formulating their individual country action plans and were the basis of the final consensus resolutions.

The final resolutions for the implementation of cervical cancer prevention and control programmes in the East and Southern Africa region urge participants and others in the region to:

1. ***Determine national policy*** as it pertains to:
   ⇒ National cancer control
   ⇒ National cervical cancer control
   ⇒ Commitment to integrated activities

2. ***Review published and unpublished data***, or conduct rapid surveys, and strengthen or establish a cancer registry to determine:
   ⇒ Prevalence of precancerous cervical lesions
   ⇒ Prevalence of cervical cancer
   ⇒ Local risk factors
   ⇒ Treatment efficacy and availability

3. ***Develop guidelines*** for integrating cervical cancer control into programmes that consider:
   ⇒ Levels of integration
   ⇒ Who will provide services
   ⇒ Who will provide additional funding
   ⇒ How the integrated programme will link with primary, secondary and tertiary health care, and national STD/HIV control and other health programmes

4. ***Promote primary prevention*** activities by:
   ⇒ Disseminating cervical cancer information to all providers
   ⇒ Helping individual clients (including young women) to recognise their own risk status
   ⇒ Counselling clients on risk-minimising sex practices
   ⇒ Aggressively promoting barrier methods

5. ***Promote screening*** by simple, effective and feasible methods; use of conservative and feasible treatment methods; as well as holistic palliative care for women with advanced cancer.

6. Develop and conduct ***competency-based training*** to enable health providers:
   ⇒ To talk about sexually related issues
   ⇒ To use screening and treatment methods appropriately and correctly
   ⇒ To use low-cost technology for diagnosis and management
   ⇒ To do counselling in all aspects of cancer control

7. Undertake ***essential research*** in cervical cancer, including:
   ⇒ The effectiveness of various methods of screening
   ⇒ Management approaches (safety, effectiveness, costs)
   ⇒ The impact of HIV on the incidence and progression of cervical cancer and on the side effects associated with dysplasia treatment

8. Develop National and Regional ***Centres of Excellence*** for:
   ⇒ Training
   ⇒ Research
   ⇒ Programme design, implementation and monitoring and evaluation
   ⇒ Reference centre for quality assurance

9. Develop mechanisms to promote the ***sharing of information*** within the region.

10. Identify or establish ***national level working groups*** on cervical cancer in each country to co-ordinate efforts and advocate appropriate action.

Opening Ceremony

Welcome and Introduction

Dr Pamela Greene, Director, PATH Kenya welcomed everyone and introduced the country teams and other participants. She introduced and thanked the meeting organising committee comprised of representatives of PATH (the meeting secretariat), JHPIEGO Corporation, AVSC International, Pathfinder International, Kenya Medical Women's Association, University of Ghent and Commonwealth Regional Health Community Secretariat (CRHCS). She also introduced and thanked the supporters, including AVSC, CRHCS, INTRAH, DFID, PATH, UNFPA and USAID/REDSO.

Opening Remarks

Professor Paul Chuke noted the importance of reproductive health to health in general and the heavy burden of reproductive ill health borne by African women. He explained that WHO recognises that the key to cervical cancer control is health education, early detection and screening linked to adequate therapy; therefore, WHO activities focus on advocacy for a more integrated life-cycle approach. A major challenge of the meeting was to review and adapt screening methods that are cost-effective and that facilitate availability at the grass roots level of health care. He stated that this meeting was long overdue and thanked PATH for convening the initial organising meeting. He called on professionals, policymakers and others to focus on solutions to reduce morbidity and mortality from this highly preventable disease.

Meeting Objectives

Dr Harshad Sanghvi presented the objectives of the meeting:

- Share information on the extent and magnitude of the problem of cervical cancer in the region and on cervical cancer prevention and control.
- Share lessons learned and experiences in addressing cervical cancer in East and Southern Africa.
- Reach consensus on appropriate low-cost technologies for screening and treatment of precancerous lesions of the cervix.
- Stimulate policy debate and advocacy for policy change in support of cost-effective strategies for preventing and controlling cervical cancer.
- Develop country-specific action plans for prevention and control of cervical cancer.

From Research to Policy and Programme Actions: The Role of the Commonwealth Regional Health Community for East, Central and Southern Africa (CRHC-ECSA) in Cervical Cancer Control and Prevention

Dr Winnie Mpanju-Shumbusho

Introduction

This presentation describes the need for concerted efforts to address East, Central and Southern Africa (ECSA) reproductive health priorities. It provides highlights of the resolutions made at the Regional Health Ministers' meeting in November 1997 regarding cervical cancer prevention and control and gives an overview of the historical background of the Commonwealth Regional Health Committee Secretariat (CRHCS). The presentation also describes ways to bridge the gap between reproductive health policy and programme actions and discusses lessons learnt from past experiences.

Regional Health Ministers Conference Cervical Cancer Resolutions

The resolutions of the of the 26th Regional Health Ministers' Conference (RHMC) on Cervical Cancer Prevention and Control in ECSA made the following resolutions to which this conference is, in part, a response:

"Noting the high prevalence of cervical cancer in the region and given that cervical cancer is a treatable condition if it is detected early, the Conference of Health Ministers resolved that member states should:

i. Adopt and promote the use of Visual Inspection (with acetic acid application) as a method of screening for cervical cancer in routine maternal child health (MCH) programmes.
ii. Adopt policies to integrate cervical cancer in Primary Health Care Programmes.
iii. Allocate resources to support research into safe and feasible treatment for premalignant and early invasive cancer.
iv. Recognise cervical cancer as a sexually transmitted infection, and recognise its relationship with HIV infection.
v. Ensure availability of palliative care, including appropriate analgesics for women with invasive cervical cancer."

Within the CRHC Reproductive Health strategic plan, various priorities are viewed as inter-related with each other as well as with aggravating factors such as health infrastructure and poverty. Intervention strategies must encompass the full human life cycle; consider health determinants such as socio-economic, cultural, age and gender factors; strengthen community involvement and employ an interdisciplinary, intersectoral, gendered approach.

Opening Ceremony

Historical Background of the CRHCS

The CRHC for ESCA was established in 1974 under the auspices of the Global Commonwealth Secretariat, London. Since 1980, the CRHCS has operated under the joint full control of the member states' governments as a permanent facilitating mechanism for promoting health development and standards of health in the region. Current member states are: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. The CRHC-ECSA established a reproductive health programme in 1989, which has included advocacy and research activities in cervical cancer control and prevention in the region since 1992. CRHCS convened several meetings of investigators, providing technical assistance and funding to enable them to develop a multicentre research protocol. In 1997, with CRHCS assistance, the five-country situation analysis (to be reported on at this meeting) was launched. CRHCS also participated actively in the Zimbabwe Cervical Cancer Study (being reported at this meeting).

Bridging the Gap Between Reproductive Health Policy and Programme Actions

During its existence the CRH-ESCA Reproductive Health Programme (RHP) has striven to increase the extent to which research influences health policy in ECSA countries. Many challenges have been encountered in this endeavour. Researchers argue that well-designed scientific studies with clear findings and recommendations are often ignored by policymakers. Policymakers, on the other hand, argue that research is often not geared to their problem-solving needs, but more towards researchers' interests for scientific publication in journals which are neither accessible nor easily understood by policymakers. A failure to use research-based evidence for decision making in health care systems can result in contradictions between policy and practice.

Lessons Learnt

Partnership for change

Policy and programme formulation should be an interactive process involving many players, to seek solutions that will be politically and culturally acceptable as well as feasible. Researchers should work in partnership with policymakers and programme implementers from the research needs assessment stage to the determination of policy implications and action plans. The relevance of research to the health care needs of the country should be a paramount consideration by researchers if they hope to influence policy and programmes with their work.

Ensuring accessibility of research findings to all relevant consumers

Research results must ultimately be translated into action programmes and be used for the improvement of reproductive health. While researchers should be encouraged to publish their work in professional or scientific journals, it is critically important that findings are easily accessible to policymakers, programme managers and the relevant communities. In pursuit of this goal the RHP summarises and repackages research findings for wide dissemination among the study communities, policymakers and programme managers in the region, other African countries and the international community, including nongovernmental organisations (NGOs) and donors.

Promoting linkages between researchers and consumers
Experience has shown that when the relevant parties have been involved from the early stages of the research process, and their input has been sought at each progressive stage, the findings have a higher chance of resulting in policy and programme action.

To facilitate these partnerships, the RHP convenes various forums to bring together researchers, policymakers, programme managers, donors, NGOs and community leaders. The Programme also facilitates presentation of research proposals and results to annual meetings of Regional Health Ministers, Directors of Health Services, Directors of Research and Deans of Medical Schools and other relevant committees.

Improving research quality
A poor research environment often affects the quality of research and hence the applicability of the research findings for policy and programme decisions in our region. In this context the RHP has facilitated capacity building measures to ensure that our indigenous researchers' work conforms to the highest standards of design, methods, data collection, analysis and interpretation. This effort has been coupled with advocacy measures to improve the image of our indigenous researchers. The CRHC is also working with member states to ensure that strategic health research receives priority in terms of government resource allocation. In addition, the RHP has facilitated sharing of expertise among member states to develop relevant skills among indigenous scientists and has focused on creating incentives to encourage young scientists to pursue a research career.

Demystifying research
In general, the simpler the research content and strategy, the greater the chances of the result being readily understood and effectively implemented. A research finding can be useful only if it is known to people who can use it. Researchers need to devise mechanisms other than journal publication to bring research findings to the attention of policymakers and other health professionals. Research reports should be clear and succinct, highlighting their relevance and the applicability of the findings. Summaries of such findings should be written in nontechnical language and circulated to policymakers. An equally important task of researchers is to popularise findings that are relevant to national development.

Cost-effectiveness
Research recommendations for new interventions and tools must take into account cost-effectiveness and affordability for health care providers and consumers alike. Research that is driven by a demand to find alternatives to existing health practice (as with visual inspection) is well placed to result in changes to policies, programmes or interventions.

Promoting scientific networking and multidisciplinary approach
Scientific and professional networks often have more clout with policymakers than the sole scientist. Researchers should promote scientific networking and use the opportunities of their gatherings to convince their colleagues, policymakers and programme managers of the validity of their research findings and of the usefulness of policy options emanating therefrom.

The value of interdisciplinarity in research can no longer be ignored. Researchers should therefore engage in multidisciplinary studies that can provide comprehensive answers to questions raised. Many of the determinants of health are recognised to be outside of the medical sphere. The interlocking relationships between health, labour, education and environment, for example, show the necessity for considering these sectors in health policy decisions.

Added advantage of the Regional Health Community forums in influencing governments' action on priority reproductive health issues

The regional approach to advocacy for utilisation of research results provides a golden opportunity for peer review among policymakers of the various member countries. These groups can pressure each other to take action on the glaring reproductive health problems within the region. This effort is enhanced by the understanding that within each forum of policymakers and programme planners/managers, each member state must provide reports on actions that the government has taken to implement resolutions adopted earlier.

Conclusion

In summary, the key issues are to:

- Advocate the evidence-based approach to policy and programme formulation.
- Promote research as a policy and programme guiding tool.
- Distinguish between need-driven and academic research and interventions.
- Facilitate implementation of national research agendas despite other competing needs.
- Understand the local context and realities.
- Address the key aspects of policy (i.e. context, actors, process and content).
- Respond to emerging priorities.

Keynote Address: A Vision for the Control and Prevention of Cervical Cancer

Professor J. K. G. Mati

Introduction

Cancer of the cervix is the most common cancer and the leading cause of death from cancer among women in developing countries. It is estimated that world wide 500,000 cases of cancer of the cervix occur every year, with 200,000 to 300,000 dying from the disease annually. The great majority of these (80%) are in developing countries.[(1)] In sub-Saharan Africa the peak age of cervical cancer cases is 35-45 years, and up to 70% are premenopausal.[(2)] Because the diagnosis is made late (see Table 1), the scope for successful treatment is limited, and consequently mortality rate is high among the affected. The treatment of choice in all but the few diagnosed in Stages O

and I (who can be surgically treated), is radiotherapy, the facilities for which are currently very limited in sub-Saharan Africa. As a result we experience the sad situation where cancer patients are placed on long waiting lists, the situation being compounded by the often nonfunctioning equipment. Whereas in developed countries there has been marked reduction in the rates of mortality associated with cervical cancer in the last two to three decades, in sub-Saharan Africa the mortality remains high.

Table 1
Staging cervical cancer at the time of diagnosis

	Kenya 1980[2]	Kenya 1990[3]	Malawi 1981[4]	Sweden 1977[5]
Stage	**%**	**%**	**%**	**%**
I	10.2	11.8	13.7	45.6
II	28.1	35.3	31.8	36.3
III	56.0	45.1	23.4	11.2
IV	5.7	7.8	31.1	6.9

Special Concerns in Africa

A number of factors operate to create the current situation with regard to cervical cancer in sub-Saharan Africa; these include:

- Traditional taboos: these prohibit open discussion of sexual matters, thereby making women shy from reporting symptoms such as vaginal discharge. Vaginal discharge is often interpreted as STD, which is stigmatised.
- Educational status of women: education of women can empower them to resist certain taboos, as well as make them aware of early symptoms. An educated woman is more likely to benefit from available screening programmes.
- Poverty: cervical cancer mortality is higher among the poor, who lack easy access to health facilities. Advanced cervical cancer is more common among rural-based women.
- Health care providers may not perform vaginal examination because this is considered a medical barrier to accessing family planning.
- Lack of adequate facilities for investigation and management of women with symptoms leads to delayed diagnosis and appropriate treatment.
- Vaginal examination is usually confined to OB/GYN departments, and even there, sometimes the vaginal speculum is missing. Most patients presenting with cervical cancer have previously visited other departments in the hospital and are denied opportunity for early diagnosis. Vaginal speculum and breast examinations should be as mandatory as is taking of blood pressure.

Risk Factors for Cervical Cancer

The risk factors for cervical cancer are reasonably well known. Cancer of the cervix is known to be associated with certain factors, including the following:

Sexual Behaviour

Cervical cancer is known to be associated with certain patterns of sexual behaviour, the most important being the age at first intercourse and the number of sex partners. In Kenya, Rogo[6] has reported that age at marriage and at first coitus were significantly lower for cases of cervical cancer compared to healthy controls.

There is no consensus that cervical cancer is associated with reproductive behaviour, even though there is a trend of increasing prevalence of dysplasia with increasing number of pregnancies (see Table 2). Such association may be a reflection of age at first intercourse and frequency of coitus.

Table 2
Prevalence of dysplasia by number of previous pregnancies
Machakos Project (Mati et al, 1994)[7]

No. of previous Pregnancies	Total smears examined	No. with Dysplasia	Prevalence %
0	78	1	1.28
1-4	886	20	2.26
5+	941	33	3.51
Missing	375	2	0.53
Total	2280	56	2.46

Smoking

Smoking has been shown to increase the risk of cervical cancer in women even after controlling for sexual behaviour.[8] Smoking may act either directly or through immunosuppression and promotion of effects of other carcinogens.[9]

Contraception

The relationship between contraceptive use and cervical cancer is confounded by the difficulty in controlling for sexual behaviour. A number of African countries participated in the large WHO multicentre study on association between steroid contraception and five cancers including cervical cancer, which showed a slight association between oral contraceptive use and cervical neoplasia, the risk being higher among women who had used the method for five or more years.[10] Similar findings have been reported by Brinton;[11] Reeves et al;[12] and Vessey et al.[13] Users of oral contraceptives are sexually active women who are less likely to use barrier methods and this may increase their risk for invasive cervical cancer. Users of oral contraceptives are also more likely to be screened for cervical disease. Long-term use of injectable contraceptives has been associated

with increased risk of invasive cervical cancer.[14] By contrast, women who use barrier methods and spermicides seem to be at lower risk for this cancer.[15]

Role of Infectious Agents

Cervical cancer is classified as a sexually transmissible disease. The search for infectious agents is important, particularly where there are possibilities for development of drugs or vaccine.

- The **human papillomavirus (HPV)** is considered the most important agent in the sexual transmission of cervical cancer. HPV types 6, 11 and 16 are common in low-grade dysplasia, while HPV types 16 and 18 become more prominent in the higher grade dysplasia and in invasive cervical cancer.[16, 17, 18]
- There are some conflicting data regarding linkage of **human immunodeficiency virus (HIV)** to cervical cancer.[19, 20, 21] The mechanism of the increase in risk remains unknown, but it could either be through immunosuppression caused by the virus, or that pre-existing dysplastic cervical epithelium facilitates entry of the virus.

Cervical Cancer Presents Opportunities for its Control

- Anatomy—the cervix is a surface organ which is easily accessible.
- Cervical cancer is a slowly progressing tumour.
- Natural history of the disease is reasonably well understood.
- Treatment of premalignant lesions is effective in preventing invasive cancer.

Natural History of Cervical Cancer

The natural history of cervical cancer offers biological advantage for its control. The disease normally progresses from a normal cell through varying degrees of dysplasia, *in situ* carcinoma to invasive cancer. There is evidence that up to the stage of *in situ* carcinoma regression towards normal epithelium is possible (see Table 3). In a Swedish series of 555 women with mild dysplasia followed up for an average of 39 months, progression to severe dysplasia or *in situ* carcinoma occurred in 16% of the cases, 62% regressed, and 22% persisted.[22] In another study involving 894 women with moderate dysplasia, progression to severe dysplasia or *in situ* carcinoma occurred in 30%, there was regression in 54%, while it persisted in 16%.[23] The time from the discovery of mild dysplasia to the observation of severe dysplasia or *in situ* carcinoma was about 4.5 years, while the corresponding time for moderate dysplasia to progress to severe dysplasia or i*n situ* cancer was 3.5 to 4 years. There is need for data on the rate of progression of dysplasia in the African population, where very young women are found with invasive cervical cancer, thereby suggesting possibility of a more rapid pace of progression.

Table 3
Progression and regression of cervical dysplasia

Grade of Dysplasia	Progression %	Regression %	Persistent %
Mild*	16	62	22
Moderate**	30	54	16

(Source: *Nasiell et al.[22] and **Nasiell et al.[23])

Tumour Differentiation

Clinical experience in Africa tends to suggest cervical cancer tends to progress rather rapidly, particularly among the younger patients. In literature there is no consensus regarding the influence of age on progression of cervical cancer.(24, 25, 26, 27)

Data from Kenyatta National Hospital in Nairobi(2) show that 98% of the tumours are bulky, and most of them are histologically poorly differentiated squamous cell carcinoma (Table 4). The role that age and tumour differentiation play in the prognosis of cervical cancer in African women remains unknown.

Table 4
Histological classification of carcinoma of the cervix
(Source: Rogo et al., 1990)(2)

Histology	Frequency (%)
Squamous cell carcinoma	
Well differentiated	9.0
Moderately differentiated	14.0
Poorly differentiated	42.5
Different unspecified	19.5
Adenocarcinoma	4.0
Anaplastic	11.0
TOTAL	**100.0**

Incidence of Cervical Cancer

Absence of functional cancer registries in most African countries makes it difficult to study the prevalence or incidence of invasive cervical cancer; also, in the absence of screening it is not possible to know the prevalence of cervical dysplasia and carcinoma *in situ*. Few studies have addressed the question of incidence of cervical cancer outside hospitals. In Kenya, we provided cytological screening in MCH/FP clinics serving a rural population of 60,000.(7) About 20% of eligible women were screened at least once, while approximately 40% of those with negative smears had a repeat test within a period ranging from one to five years. Table 5 shows that the

prevalence of dysplasia ranged between 2% and 3.6%, being slightly higher among antenatal women, while the *incidence* was calculated as 2.3% to 2.46%. [Since the period was 1-5 years, annual incidence would be 0.49-2.44%. -*Ed.*]

Table 5
Prevalence and new cases of dysplasia
Machakos Project (Mati et al, 1995)[7]

	All women screened	Family Planning	Antenatal
At least one smear taken	2280	1634	646
1st smear abnormal	56	33	23
Prevalence (%)	2.46	2.02	3.56
At least two smears where			
1st was normal	821	692	129
2nd smear abnormal	20	17	3
Incidence (%)	2.44	2.46	2.32

Screening for Cervical Cancer

Understanding of the natural history of cervical cancer provides the rationale for screening for cervical cancer. The value of cytological screening for cancer of the cervix is now proven in developed countries where early detection and screening programmes have reduced the incidence of invasive cancer and thereby lowered associated mortality. For instance, the incidence of invasive cancer in 1989 in Scandinavia was approximately half of what it was before introduction of screening, while the death rate in the period 1988-1990 was about 50% of what it was in 1970.[28] Although improvements in the treatment modalities occurred during the 20-year period, nevertheless early detection and prompt treatment of premalignant lesions must account for much of the reduction in mortality. In spite of this knowledge, only a negligible proportion of women in Africa benefit from cytological screening, mainly because of the following constraints:

- Lack of information and education on cervical cancer targeted at members of the public, particularly women.
- Cost involved in taking, processing, and reading smears; lack of personnel to take adequate smears and process and read them; and lack of expertise to confirm positive tests; including histological confirmation.
- Some or all of the special concerns discussed above.

Among the strategies to make screening more accessible and efficient in sub-Saharan Africa should be the following:

- Disseminate information on the disease through all media channels. Health clinics should display IEC materials on cervical cancer.

- Involve all staff at the reproductive health clinics in the effort and provide update training, particularly emphasising the importance of early diagnosis and treatment.
- Train clinical staff, including nurses and clinical officers, to be able to perform adequate speculum vaginal examination, and to distinguish between normal and abnormal cervices.
- Introduce affordable and cost-effective screening techniques.
- Build up back-up technical capability, cytology, histology.

Methods for Cervical Cancer Screening

- Cytology (Pap smear)
- Aided Visual Inspection (AVI) e.g., gynoscope [*Ed.* VIAM]
- Unaided Visual Inspection (UVI) [*Ed.* VIA]
- Colposcopy
- Cervicography
- Tests for HPV markers

The choice of a screening method should be determined not only by its efficiency in terms of disease prediction, but also by its affordability and the potential to cover a wider section of the target groups. Emphasis should be on developing a battery of simple, affordable tests which used together will increase the probability of detecting abnormal lesions at the lowest cost.

Treatment of Premalignant Lesions

Effective cancer screening must be backed up by appropriate and affordable treatment and management of the women who test positive. Treatment options will obviously depend on available resources, but must always be evaluated carefully. Some of the management modalities include:

- Expectant management (follow-up)
- Knife cone biopsy
- Loop electro-excision
- Laser therapy
- Hysterectomy

All patients who have been treated by excision or ablation therapy require careful follow-up with screening methods.

Prevention Strategies

The most important prevention strategy is reduction of known risk factors (primary prevention): reduction of risky sexual behaviour and avoidance of multiple sex partners; measures to delay entry in sexual relationship and early childbirth; improved hygiene and early recognition of symptoms; prevention of STIs; and, when available, an anti-HPV vaccine.

Secondary prevention of cervical cancer also needs emphasis—i.e., screening, early detection and treatment of precancerous lesions.

Future Directions

There is need for advocacy aimed at dispelling doubts among policymakers, including physicians, that cervical cancer is one of the main causes of death from cancer in women, and that the disease affects young and middle-aged women at a time when they have a lot of family and economic responsibilities. Thus investing in the prevention and treatment of cervical cancer not only reduces mortality, but it also has economic implications as well. Further, treatment of early stages of cancer and premalignant lesions offers the best outcome and is also much cheaper than management of advanced disease. Research agendas in our region should aim to maximise the effectiveness of these interventions.

A number of questions remain which require the concern of all those interested in prevention and control of cervical cancer in sub-Saharan Africa; these include the following:

1. What approaches may be used to improve the level of knowledge of cervical cancer and related risk factors among women of all levels of socio-economic status?

2. How may cultural inhibitions among women be overcome in order to encourage early reporting of symptoms and acceptance of medical (especially vaginal) examination?

3. How may nonphysicians be brought to assist in the process of downstaging of invasive cervical cancer?

4. What are the most appropriate approaches for expansion of the scope of cervical screening in Africa?

5. What is the extent of HPV infections within communities; what is the scope for therapy and does treatment influence the grading of dysplasia?

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Screening for Precancerous Lesions of the Cervix in Low-Resource Settings

Dr Harshad Sanghvi

Introduction

A good screening test is one that is effective, safe, practical, affordable and available. This paper describes the different tests currently available for cervical cancer screening and the level to which they meet these criteria.

Pap Smear

The Pap smear has been used for many years and has become a standard test for cervical cancer screening. It is being used to a large extent in developed countries. Pap smears have both testing and programmatic logistic requirements. The testing requirements include: slides, an identification mechanism, spatula, fixative, staining reagents, cover slips, microscopes and trained cytotechnicians or pathologists. The programmatic requirements include: light source, speculum, "paper trail" (lab slips/log book), transport to the laboratory, report transmission, patient contact, referral network and an accessible centre for diagnosis and treatment.

In the African region many of these requirements are not being and cannot be met. The facilities do not exist or there is breakdown at some point in the system. There may also be problems with the client follow-up and referral.

Pap smear efficacy has been shown in a recent meta-analysis to vary widely. Specificity estimates ranged from 14% to 97% and sensitivity estimates ranged from 11% to 99%. Pap smears require intensive quality control.

Alternatives for Cervical Cancer Screening

Due to these factors, many are looking for alternatives to Pap smear for cervical cancer screening. Alternatives to the Pap smear which are currently under investigation include visual inspection with acetic acid (VIA), visual inspection with acetic acid and magnification (VIAM), colposcopy, automated Pap screening, HPV screening, cervicography and combination or repeated testing.

Proposed Approaches to Cervical Cancer Screening in Low-Resource Settings

Approach	Effective	Safe	Practical	Affordable	Available
VIAM	?	Yes	Yes	Yes	Yes
VIA	?	Yes	Yes	Yes	Yes
Automated Pap Screening	Yes?	Yes	?	No	No
HPV Screening	?	Yes	?	?	Yes
Cervicography	Yes?	Yes	?	?	Yes

(Adapted from PATH, 1994)

Visual Inspection with Acetic Acid (VIA)

This involves looking at the cervix after swabbing it with acetic acid. The importance of early detection of disease is key, especially "looking at the cervix." Several methods of visual inspection (VI) can be used: acetic acid without magnification (VIA), Gynoscope or other magnification with acetic acid application (VIAM), colposcopy (which is only available in very few settings) and cervicography (which involves taking a photograph of the cervix). With all these methods, we can easily pick up invasive cancer at earlier stages (stage I and II). These are more amenable to curative treatment. However, the goal is to pick up precancerous lesions, the treatment of which will result in prevention of cancer. Studies done by Abrahms in 1990 and Megevand in 1996 show a clear potential for VIA and we will hear about the exciting results from Zimbabwe and South Africa.

Visual inspection is a noninvasive procedure which can be performed by any person trained to do so. Results are available immediately and all systems elements necessary for VIA are already available locally within the region.

Three studies performed in the United States, Indonesia and South Africa[1] have shown that VIA and VIAM have potential as cervical cancer screening alternatives.

HPV Tests

Molecular (HPV/DNA) tests which detect HPV types that are precursors to cancer are under investigation.

[1] Abrams J. A preliminary study of the gynoscope: an adjunct to cytologic screening of the cervix. *American Journal of Gynecologic Health*, 1990; 4:27-33; Tsu V. Visual inspection for cervical dysplasia: preliminary evaluation studies in Indonesia (1992-1994) in *Alternatives for Cervical Cancer Screening and Treatment in Low-Resource Settings*, Workshop Proceedings, 21-22 May 1997. JHPIEGO, December 1997; Megevand et al. Acetic acid visualization of the cervix: an alternative to cytologic screening. *Obstetrics and Gynecology*, 1996; 88:383-386.

Screening

Combination of Tests

In the developed world, tests or a combination of tests, are usually available. If certain tests are done repeatedly over an appropriate period of time, then the disease can be easily detected. In developing countries, this may not be possible.

Conclusions and Implications

There is limited access to Pap smear and there are no national screening programmes in the ECSA countries. There are limited resources, including cytotechnicians and cytopathologists, inadequate quality control and poor follow-up. There is an urgent need both to implement screening programmes using alternative, low-cost tests and to strengthen the quality control for existing cytology services.

Zimbabwe Cervical Cancer Screening Study

Dr Z. Michael Chirenje

Introduction

Cancer of the cervix is the commonest gynaecological cancer in developing countries (Parkin et al., 1993). More than 470,000 new cases of cervical cancer are diagnosed each year throughout the world and 80% of them are in developing countries. The problem is particularly severe in East and Southern Africa where the age-standardised incidence has been reported as the highest worldwide at 45 per 100,000 women (Parkin et al., 1993). In Zimbabwe, cervical cancer accounted for 30% of all registered cancers in the 1994 Zimbabwe Cancer Registry.

A number of factors contribute to these high cervical cancer rates. Screening coverage in developing countries is poor. Less than 5% of women in developing countries are ever screened for cervical cancer, compared to 45% to 50% of women in the industrialised countries (WHO, 1986). Cancer detection often comes too late. Zimbabwe hospital data indicated that 65% of women with cervical cancer are diagnosed at stage III or above and are therefore inoperable. This is against a background of a preventable disease which develops slowly over a period of about 10 years through treatable precursor lesions known as CIN (cervical intraepithelial neoplasia). HIV can also contribute to the cervical cancer problem as HIV infection predisposes to HPV infection and accelerates the progression of precursor lesions to invasive cervical cancer (Vernon et al., 1992).

Study Objectives

To determine the effectiveness of visual inspection with acetic acid (VIA) as a primary means of cervical cancer screening.

Methods

Fifteen primary health clinics within Harare and Chitungwiza urban communities were included in the study. The study period lasted from October 1995 to July 1997. All women aged 25 to 55 attending one of the primary health care clinics without a previous diagnosis of cervical cancer or a hysterectomy were eligible for the study (about 75% to 80% actually took part). VIA test positives included cancer or abnormal (white plaques, ulcer, acetowhite epithelium), while test negatives included normal and atypical changes (inflammation, discharge, ectropion, polyp).

The study was conducted in two phases. In Phase I, all women with positive Paps and positive visual exams and 10% of women with negative Paps were scheduled for colposcopy (although only 4% actually had it). In Phase II, VIA and colposcopy were to be done simultaneously. All women recruited in Phase II actually had colposcopy done the day following their VIA. Biopsies were done when clinically indicated. Results are presented using two thresholds, first where disease includes low-grade squamous intraepithelial lesions (LGSIL) and one where it is not included. In both cases, comparisons for purposes of calculating test characteristics are against a gold standard or biopsy (histology) or, where not available, colposcopy.

Results (VIA and Pap smear compared to biopsy or colposcopy)

Lower threshold of disease (i.e. LGSIL, HGSIL and cancer considered disease)			
	n	**sensitivity**	**specificity**
VIA	3,671	65.9	56.4
Pap	3,547	46.3	86.8

Higher threshold of disease (i.e. HGSIL and cancer considered disease)			
	n	**sensitivity**	**specificity**
VIA	3,671	69.0	52.7
Pap	3,547	68.9	82.8

Conclusions

VIA may be an effective screening test for cervical precancer. VIA is a safe, affordable, accessible, clinically acceptable means of providing primary cervical cancer screening with the potential for immediate referral. Nurses are capable of making a screening assessment using acetic acid after a brief training with a cervical atlas. Pap smear may be used as a second-level screening test after VIA.

Effective modalities of treatment for cervical precancer must be safely evaluated before recommending them for those with test-positive results. Cervical cancer screening should only be offered when adequate treatment facilities are in place to treat all positive cases.

Kayelitsha Cervical Cancer Screening Project

Dr Lynette Denny (and Wright TC, Kuhn L, Risi L, Richard R, Pollack A, Lorincz A, Kosteki F[2])

Introduction

Cervical cancer is the commonest cause of cancer death among women in Africa. While there is a paucity of reliable data on prevalence and incidence, the available evidence from tumour-based cancer registries suggest that the age-standardised incidence rates for cervical cancer range between 39/100,000 women (South African Cancer Registry, 1990) and 67/100,000 women (Zimbabwe Cancer Registry, 1996). There are no randomised controlled trials of cervical screening as an intervention to prevent cervical cancer; however, data from developed countries indicate that mass, organised, population screening can significantly reduce the incidence of cervical cancer to rates of 4 to 6/100,000 women, as are found in the United Kingdom or United States of America.

Yet, there are no national cervical screening programmes in African countries. To screen effectively in low-resource settings (which characterise health care systems in Africa), the following criteria need to be met: on site screening, diagnosis and treatment of women with pre-invasive lesions of the cervix; rapid turn around of results; low cost, low technology screening tests; elimination of colposcopic triage; wide coverage of at-risk women; appropriate educational programmes; and built-in audit of screening programmes.

There are many reasons why national cervical screening programmes have not been instituted in continents such as Africa. These include: competing health needs like malaria, tuberculosis, and complications of pregnancy; undeveloped primary health care structures; limited financial, equipment and human resources; an emphasis on curative versus preventative health care; a population of largely uninformed and disempowered women; a lack of political will; and the nature of the screening test.

The traditional screening test used in national programmes is the “Pap” smear or cervical cytology. Cervical cytology in good hands and well-resourced settings is an excellent screening test. However, a wide range of sensitivities has been reported (11% to 80%), it requires an expensive and complex infrastructure and the result is not immediately available, resulting in significant loss to follow-up. In addition, cytological services are not available in many developing countries. These issues have prompted the search for alternative techniques for cervical cancer screening that would be more appropriate to low-resource settings: direct visual inspection of the cervix; detection of oncogenic types of HPV DNA in infection of the cervix and cervicography.

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Study Objectives

It is against this background that the Kayelitsha Cervical Cancer Screening Study was begun in January 1996. The aims of the study were to evaluate alternative strategies for the prevention of cervical cancer in low resource settings and to evaluate different screening protocols for different levels of health care resources.

Methods

Kayelitsha is an informal peri-urban settlement about 20 km outside of central Cape Town with an estimated population of 350,000 people. Inclusion criteria were: women aged 35 to 65 years who have not been previously screened, are not pregnant, and are able to give informed consent. There are five stages to the project: (1) recruitment, which is coupled to an intensive educational campaign; (2) informed consent and enrollment by means of a detailed questionnaire; (3) screening by a trained nursing sister who inspects the vulva, passes a speculum and visualises the cervix, takes a cervical smear, takes two samples for HPV DNA detection, performs visual inspection of the cervix after application of 5% acetic acid with (VIAM) and without (VIA) magnification, and takes two cervigrams with a cerviscope; (4) diagnosis and treatment and (5) tracing and follow-up of patients.

Women are referred for colposcopy within two to six days of being screened if a lesion is noted on visual inspection or if the HPV DNA is positive at 10 times the positive control. All colposcopy is performed on site using a mobile van. If a significant lesion is noted at colposcopy (using the Reid's Score), a LEEP is performed immediately. If an insignificant white lesion is noted, a biopsy is taken and if no lesion is seen, an endocervical curettage is performed. Women are also recalled for colposcopy if the Pap smear or cervigram is abnormal.

HPV DNA testing is performed using the tube-based Hybrid Capture method (Digene Diagnostics), which is a DNA-RNA solution hybridisation test able to detect HPV types 16, 18, 31, 33, 35, 45, 51, 52 and 56.

Analysis

All cytology and pathology is blindly reviewed at Columbia University (TW). Sensitivity and specificity are calculated using histology as the gold standard to confirm the presence of disease. Women are considered disease free if no abnormality is detected on any of the screening tests or if histology is negative after colposcopy and adequate histological sampling.

Results

The results are based on the analysis of the first 1,500 women screened in the study. Nine women were excluded, leaving a study sample of 1,491 women. Complete screening data are available on 1,335 women, with 156 cervigrams and Paps either unread or unsatisfactory. Complete screening and colposcopic data are available on 1,226 women; 109 women were lost to follow-up at the time of analysis.

Screening Test	N	Sensitivity	Specificity
VIA (positive = HGSIL, Ca)	1,226	.81	.81
Pap (positive = HGSIL, Ca)	1,226	.81	.94
HPV DNA testing:			
any level	1,226	.73	.87
> 10 times positive control	1,226	.49	.95
Cervicography (positive = HGSIL, Ca)	1,226	.70	.91

Conclusions

Cytology has good sensitivity and specificity, but it is difficult to implement in true low-resource settings and requires a high level of technical expertise. The delayed result necessitates recall of women with positive tests, which is often extremely difficult and unsuccessful. VIA is as sensitive as cytology in this study and meets the criteria for screening in low-resource settings. Used alone without colposcopy or a second screening test, it would lead to unacceptable over-treatment. It is necessary to further refine the use of VIA and to establish clear, reproducible criteria for training and evaluation of women.

HPV DNA detection has sensitivity somewhat lower than VIA or cytology. However, it is a less subjective test than either of the above tests and requires fewer resources than cytology with a quicker turn around time of results. Cervicography is an excellent research tool, acting as a safety net. It allows good quality control of VIA and performs reasonably well as a primary screening test, although it is logistically more complex than VIA.

These are preliminary data, and larger numbers are required to draw firm conclusions. In addition, the crucial test of the above screening tests will be their performance in the field, rather than under research conditions. Further, a cost-benefit analysis needs to be performed.

The challenge is to provide cervical cancer screening to all at-risk women without compromising the quality of the screening tests or programmes. “Third rate” is not best for the Third World.

Acknowledgments

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The Two-Stage Screening Model

Dr Lynette Denny (and Wright TC, Kuhn L, Risi L, Richard R, Pollack A, Lorincz A, Kosteki F[3])

Introduction

The two-stage screening model is based on the concept of using an initial screening test which has high sensitivity but uses low technology and minimal human and other resources followed by a second, more specific test. The initial screening test identifies a subgroup of women who require a second test only if the initial test is positive. The second test, with high specificity, is limited to the subgroup of women identified by the initial screen, allowing the use of more sophisticated screening tests such as cytology or HPV DNA detection. This model may enable treatment of women with preinvasive lesions of the cervix simply on the basis of the screening tests alone, without the use of colposcopic triage.

Study Objectives

To determine the utility of using a two-stage screening model to detect cervical cancer.

Methods

Using observed data from the Kayelitsha Cervical Cancer Screening Project, the number of women who would be detected with HGSIL (High Grade Squamous Intraepithelial Lesion) or cancer with any one test is compared to the number of women who would be detected with HGSIL or cancer using the two-stage model.

Results

The number of women who would be detected with HSIL or cancer per 1,000 women screened using the following screening tests alone would be:

VIA	24/1,000	HPV DNA	21/1,000
Cytology	24/1,000	Cervicography	20/1,000

In the two-stage model, if the initial screen is VIA and then a second screening test is performed only on those women identified by VIA, the number of cases detected per 1,000 women screened would be:

VIA + Cytology	18/1,000
VIA + HPV	17/1,000
VIA + Cervicography	18/1,000

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If women were to be treated on the basis of screening tests used alone:

One-Stage Model

Screening Test	Number of Women Treated per 1000	Women with Disease	Women with No Disease
VIA	204	24	180
Cytology	83	24	57
HPV DNA	152	21	131
Cervicography	111	20	91

In the two stage model the situation is very different. If VIA is used as the initial screen followed by a second screening test:

Two Stage Model

Screening Tests	Number of Women Treated per 1000	Women with Disease	Women with No Disease
VIA + Cytology	40	18	22
VIA + HPV	58	17	41
VIA + Cervicography	80	18	62

Discussion

In addition to the dramatic reduction in over-treatment, the two-stage screening model also reduces the need for more expensive tests. For instance, from the Kayelitsha Cervical Cancer Screening Project data, 43 cytological smears are required to detect one case of disease if cytology is used alone. In the two-stage screening model, only 11 cervical smears would be required to detect one case of disease.

These data in the two-stage screening model show a dramatic reduction in over-treatment when women are treated on the basis of screening tests without colposcopic triage. Over-treatment of women with preinvasive disease requires careful consideration as the consequences are not trivial in terms of costs, complications and patient acceptability.

Complications of treatment of the cervix include haemorrhage, infection, cervical stenosis and infertility. In addition, an ongoing study being performed by Dr Thomas Wright in New York has shown a significant increase in the shedding of HIV from the cervix after treatment of the cervix by LEEP, cone biopsy and cryosurgery in women known to be HIV seropositive (personal communication). The increased shedding is maximal at 2 weeks and may persist up to 8 to 12 weeks. These findings have important implications for the treatment of preinvasive disease, particularly in areas with a high prevalence of HIV infection.

Furthermore, there is the issue of patient acceptability. Cervical screening is a relatively invasive process and although the treatment of preinvasive disease can be performed as an outpatient procedure, unnecessary treatment may be unacceptable to many women.

Conclusions

In conclusion our data suggest that two-stage screening may allow treatment of women with preinvasive disease without colposcopic triage. Two-stage screening dramatically reduces over-treatment of women while resulting in a modest loss of sensitivity for disease. In addition, it reduces the number of more expensive tests required to detect disease. We are continuing to investigate this model in our on-going study in Kayelitsha, in which we plan to enroll 6,000 women.

Discussion (Rapporteur: Dr Stella Abwao)

Discussion focused primarily on visual inspection, but a few more general issues were also raised.

Questions related to visual inspection (VIA) varied from technical points to future plans.

- ***Sensitivity and specificity***. Concerns were raised about both poor sensitivity (missing some cancers) and poor specificity (leading to over-treatment). It was acknowledged that no method (including Pap smears) would achieve high levels of both. Dr Sankaranarayanan of International Agency for Research on Cancer (IARC) shared preliminary findings of studies done in India in which providers using VIA were able to detect 90% of lesions. He commented that IARC felt that in a low-resource setting they would be willing to sacrifice a little in terms of sensitivity in order to improve the specificity (to reduce over-treatment and unnecessary burdening of the health care system). He thought that a sensitivity of 70% to 80% and a specificity of 90% to 95% would be reasonable. Dr Ngwalle raised the question of whether there are some settings where one could (or must?) forego colposcopic confirmation before treatment.
- ***Infection control***. Dr Kotzenberg asked about infection control with VIA. Dr Sanghvi replied that high-level disinfection of the speculum (e.g. with bleach) is not too difficult.
- ***Acetic acid, lubrication***. In response to questions about the concentration of acetic acid and the use of lubricants, Dr Denny explained that the exact concentration of acetic acid (3% to 5%) was not critical and could depend on what was easily available locally. She recommended vaginal lubricant for better patient comfort during examination.
- ***Future plans***. When asked what should come next with VIA, Dr Denny and Dr Chirenje each responded. In South Africa they hope to extend the study to a rural area, to train more nurses in the technique, to do a much larger study with 100,000 women using appropriate educational materials, and to train nurses to do LEEP or cryotherapy. If that larger programme were successful, they would then approach the Department of Health and urge national adoption of the approach. In Zimbabwe they plan to select a district for a pilot study implementing the use of VIA for screening and assessing the impact.

On a more general note with regard to screening, Mrs Kakande pointed out the valuable role ***nurse-midwives*** were playing in the current research and urged a broader role for them in the screening programmes (including training some as cytotechnicians). She also raised a question about the potential for litigation, which led to a broader discussion of the importance of community education and effective ***communication with individual patients***. Dr Denny noted that in South Africa litigation is uncommon in poor communities and usually arises when a patient feels poorly informed or the interpersonal communication with the health care provider has been poor. Dr Chirenje agreed that inadequate counselling was often the cause. The importance of ***educating and mobilising the whole community*** was raised. Mr Kaggwa pointed out the value of going beyond a clinic-based approach and using the media. The importance of determining the views of consumers, involving them in any research planning, clarifying any rumours or issues of husband's consent and building political support with policymakers were all stressed. Dr Denny explained how she had visited influential people in the community where her research was undertaken and had held mass meetings to explain the purpose of the research and get community

approval for it. Every three months they report back interim results to the community. They also developed a “soap opera” to explain the issues of cervical cancer.

Options for Treatment of Precancerous Lesions of the Cervix

Dr Edward Ngwalle

Introduction

Combined worldwide incidence places cervical cancer second only to breast cancer as one of the most common neoplastic diseases affecting women. In developing countries cervical cancer stands out as the most important of all female neoplasms. Eastern and southern African countries stand out as the most impacted region of the world, but rates of cervical cancer are also particularly high in Central America and parts of South East Asia. The magnitude of morbidity from cervical cancer parallels that of maternal mortality, both of which stand at about 500,000 cases per year. While maternal mortality figures have hit the headlines of national news media, the same has not been true of cervical cancer. Cervical cancer remains a silent miserable killer going unnoticed by many, except for the victims themselves. These women are often the primary bread winners of their families and the primary source of moral inspiration and educational values for the school-aged children in their families. Premature death of these mothers naturally carries untold social suffering as well as economic consequences for the affected families. This is an enormous tragedy; because the disease is almost totally preventable today.

Natural Progression Of Cervical Cancer

Cervical cancer, unlike many other cancers, develops very slowly. Initially it exists in an asymptomatic form known as cervical intraepithelial neoplasia (CIN) or squamous intraepithelial lesion (SIL). This asymptomatic form is a precursor to invasive cervical cancer; it is readily detectable and easily treated.

The type of patient at risk for development of CIN/SIL has been clearly defined, as has the exact site at which CIN/SIL develops in the cervix. Precancerous lesions can be identified with a high degree of accuracy by examining a Papanicolaou smear taken from the cervix and the diagnosis can be confirmed by histological examination of small punch biopsy specimens from a colposcopically visible area of CIN/SIL on the cervix. Theoretically, if all women at risk were adequately screened and treated for CIN/SIL, then invasive cancer could be almost eradicated from our countries.

Site of Origin of CIN/SIL

The transformation zone (TZ) is the area found on the *portio vaginalis* of the cervix. This area constitutes the “zone of neoplastic potential”. Should a carcinogen be introduced during the process of metaplasia, then instead of undergoing a physiological change to mature benign squamous epithelium, this area in the TZ will change into dysplastic epithelium giving rise to CIN/SIL which may ultimately develop into invasive squamous cell cervical carcinoma.

Table 1
The changing terminology for premalignant lesions of the cervix

1970s	1980s	1990s
Dysplasia	Cervical intraepithelial neoplasia (CIN)	Squamous intraepithelial lesion (SIL)
Atypia, Mild dysplasia	Koilocytotic atypia CIN I	Low-grade SIL (LGSIL)
Moderate dysplasia	CIN II	High-grade SIL (HGSIL)
Severe dysplasia, carcinoma *In situ*	CIN III	

Natural History of CIN/SIL

It is now accepted that CIN/SIL constitutes a continuous spectrum of disease which progresses from mild dysplasia (CIN I) to carcinoma in situ (CIN III) and ultimately to invasive squamous cell carcinoma of the cervix. However, we also know that this does not invariably occur; spontaneous regression of CIN is a well documented phenomenon. The rate of progression seems to increase with increasing degree of CIN and transit time to carcinoma *in situ* becomes progressively shorter the higher the histological grade. The progression rate of LSIL to HSIL is estimated to be about 15%. However, there are no reliable methods to determine which cases of LSIL will progress to HSIL if left untreated. HSIL is more frequently associated with high-risk oncogenic viral types and these are less likely to regress.

Management of CIN/SIL

The necessity of treating all LSIL is controversial and I would not like to pursue this further. In contrast, HSIL is nearly always treated even when colposcopically directed biopsies are negative.

Methods used for treatment of HSIL:

- Cervical conisation to excise the TZ
- CO_2 laser vaporisation of the TZ
- Cryosurgical destruction of the TZ
- Hysterectomy
- Loop electrosurgical excision procedure of the TZ (LEEP or LLETZ)
- Electrocoagulation

Most women with abnormal cervical cytology have CIN rather than invasive cancer. However, the most important diagnostic responsibility of the gynaecologist is to be certain that invasive cancer is NOT present before a treatment decision is made. Therefore, the initial diagnostic step (once an abnormality is identified) is a colposcopic evaluation to determine the location and extent of the lesion on the cervix and to take directed punch biopsies of the abnormal areas that are observed. An endocervical curettage should also be done to be certain that invasive cancer is not inadvertently missed in the endocervical canal. This process constitutes the diagnostic triage.

Cervical Conisation

Cervical conisation is therapeutic as well as diagnostic for CIN. Treatment success rates well over 95% have been documented, and recurrence rates have been reported between 2 and 5%. The drawbacks for cone biopsy are its relatively high rate of complications, including postoperative bleeding, cervical incompetence or cervical stenosis, and its high cost. The two latter complications are related to the size of the cone biopsy: if a specimen with a volume in excess of 4 cm is removed, the incidence of cervical incompetence is increased, whereas with a small cone biopsy cervical stenosis may ensue as a complication. Post-cone haemorrhage can be minimised by using a slowly absorbed material for repair. If the procedure is carried out in the early proliferative phase of the menstrual cycle, the incidence of haemorrhage may be further diminished.

CO_2 Laser Vaporisation and Cryotherapy

When the lesion does not extend into the endocervical canal on colposcopic examination and the endocervical curettage is negative, either CO_2 laser vaporisation or cryotherapy of the transformation zone will be appropriate treatment. Cure rates of these two methods are largely dependent on the size of the lesion and the area of distribution rather than the grade of a given lesion. In appropriately selected patients the overall cure rate for both approaches is approximately 80-90% after a single treatment and goes up to 95% for cryotherapy after repeat therapy. CO_2 laser conisation is quite expensive, requires considerable skill and demands use of an operating room and anaesthesia.

Hysterectomy

After invasive cancer has been excluded by conisation, hysterectomy can be considered for definitive therapy of CIN in selected patients: those who desire sterilisation or have additional clinical indication for removal of the uterus.

Loop Excision of the Transformation Zone (LEEP)

Excision of abnormal epithelium of the transformation zone using a diathermy wire loop has many advantages.

- The procedure can be performed on an outpatient basis using local anaesthesia.
- Bleeding is minimal with little stenosis of the cervix.
- The specimen is not destroyed; it is available for histological examination and this may allow for discovery of unsuspected invasive cancer.
- The technique is simple, easy to master and quick (takes about 5 minutes).
- Peri-operative discomfort is negligible to nil.

Follow-up after Treatment

For all patients undergoing any form of therapy for CIN/SIL, cytologic follow-up is important to ensure that treatment was effective and because women may be at increased risk of developing neoplasia of the vagina and vulva.

Experience with Treatment of Precancerous Lesions of the Cervix in Kenya

Dr Khama Rogo

Introduction

The experience in Kenya of treatment of precancerous lesions of the cervix parallels very much what is happening in the rest of the region and probably in most developing countries. This paper details the Kenyan experience and highlights critical issues for a successful treatment programme. Before 1988, though there was already expertise in this particular area, the Ministry of Health had not taken any concrete steps in terms of establishing preventive programmes. Since there was little screening being done, treatment focused more on invasive cancer than precancerous lesions. In the 1990s screening capacity improved only slightly and treatment options remained limited.

Experiences in Kenya

Radiotherapy for Invasive Cervical Cancer

A considerable amount of work took place in Kenya prior to 1988. This work was focused largely on the setting up of a treatment centre for cervical cancer. At Kenyatta National Hospital (KNH) a gynaecology ward was established, but the vast majority (93%) of the patients seen were beyond stage IIa and were, therefore, inoperable. With the assistance of the Swedes and the East African Women's League, we were able to set up the first radiotherapy facility in Nairobi, using a cobalt machine which served well into the 1990s. In addition, intracavitory treatment based on caesium was available on a limited basis, although the applicators were used and reused many times and the caesium source eventually became too weak. By the mid-1990s neither treatment at KNH was functioning optimally. In the private sector a cobalt machine was installed at Nairobi Hospital in the early 1990s.

A second intracavitory machine received from Holland in 1992, donated by IEA, went to Kisumu; it was not even unpacked for the first six months, and remains unused to this day. The interesting thing about that machine is that rather than caesium as the active source, it would use iridium. But iridium has a much shorter life, which would require reimportation every three months or so. The process of getting anything that is radioactive through our customs systems takes about three months, which would be a significant problem for this system.

As patient load increased and waiting times lengthened, support from the Japanese was secured to get an additional cobalt machine and intracavitory equipment, which are presently being used in Nairobi. This narration is not to ridicule the system that we deal with but to show how, when things are not properly organised and synchronised, they can lead to high expenditures without providing any meaningful service to the women they are meant to help.

When we compare ourselves with our neighbours down to the river Limpopo [the northern border of South Africa], we find that even with our disorganisation, we still probably had the most elaborate facility for the treatment of cervical cancer. Tanzania was doing well with their machine, although it had to serve a bigger country. Uganda had absolutely no radiotherapy facility, and

Sudan's facility was flooded and not functional at the time that I visited there. Ethiopia had not started anything at all, nor had Somalia, Central Africa, or Zaire. Zimbabwe did better then, because World Health Organization (WHO) set up the radiotherapy training school there and they now had the two centres in Bulawayo and in Harare. In West Africa, Cameroon was just starting with its cobalt machine and there was one machine in Ivory Coast, while the machine available in Lagos used to work on and off, trying to serve a population of 100 million people in Nigeria. There was nothing available in Ghana, Togo, Benin or Senegal. In short, outside South Africa and the Maghreb region of North Africa, the 250 million women of Africa have only a handful of cobalt machines to rely on.

Cytology

In mid-1980s, the department of OB/GYN started a training programme on cytology. This was supported by the GTZ (German Government assistance). A course lasting a few weeks was organised for laboratory technologists who were already working in the districts. They were brought back into the department and were given basic training about Pap smears. At that time there were only two or three cytotechnologists in the country who had gone through the advanced international course. Eventually, over 12 cytotechnicians were trained and started doing some screening. A couple of them later joined the Family Planning Association of Kenya (FPAK).

The efforts to spread cytology further took another step in the early 1990s. The Department of Microbiology began offering some training in cytology to people with Bachelor of Science degrees in basic sciences. This training continues today. However, efforts to establish proper cytotechnician training at the Medical Training School, where all the technologists and technicians are trained, did not meet a very forward-looking response at that particular time. Therefore, the situation has been one in which both the facilities and the trained cytotechnicians have been in short supply.

Colposcopy

In the early 1980s there had been a colposcope in the office of Obstetrics and Gynaecology; however, this machine had been idle for a good five years or more and had gathered quite a bit of dust. In the late 1980s it was moved from the office into the clinic area, where it was supposed to be initially. The Kenyatta National Hospital then established a colposcopy clinic, and work on colposcopy started. This, however, did not spread to other hospitals and even today the three active colposcopy clinics in the country are all in Nairobi. The numbers of patients handled, however, are negligible. Neither Nairobi, Mombasa nor any other part of the country is adequately served. The Nairobi Oncology Centre (NOC, my private clinic) and the Kenya Medical Women's Association (KMWA) clinic are the only active referral centres for colposcopy in Kenya. The Gynoscope has been tried extensively at NOC and will be sent to western Kenya once the improved version is available.

Treatment of Precancerous Lesions

Cold knife conisation has been the predominant method of treating precancerous lesions of the cervix in Kenya. Cryotherapy was introduced at KNH in the early 1990s but did not run smoothly due to technical and supply issues. LEEP was introduced in Nairobi in 1992 and is used at both

NOC and the KMWA clinic. At NOC we have modified the loops; it has worked well and is now the accepted treatment for dysplasia at the Aga Khan Hospital in Nairobi. Using ordinary bipolar diathermy, this method could be used in district hospitals.

Critical Issues in Cervical Cancer

Awareness

Public awareness of cervical cancer is a major issue. Women in Kenya do not know about cervical cancer. General practitioners and general gynaecologists are not well informed about it. Even in the private sector gynaecologists may not mention Pap smears to women.

Diagnostic Capacity

At present we have almost no diagnostic capacity, but there is a small nucleus of people who are properly trained in cytology and another small group of gynaecologists capable of providing the necessary training in management of cervical cancer and precancer.

Treatment Modalities and Outlets

Treatment modalities and outlets are also a concern. Treatment centres are concentrated in Nairobi, with few options in other locations. Treatment choices are also limited: very few people know about LEEP and use only conisation, although LEEP would be cheaper and easier to make available beyond the big hospitals. While the loops used for LEEP are expensive, it is possible to make your own loops (as I have done, with some success) which are thicker but will do exactly the same thing. With LEEP it would be possible to make a diagnosis even without a colposcope and take good biopsies without the extra costs of a surgical theatre (although one would still need electricity). I believe that, together with visual inspection and magnification, a modified LEEP technique could be used in a single-visit, diagnose-and-treat regimen.

Referrals and Follow-ups

We do not have a functional referral system, but even if it were functional, the distances that we would be dealing with would be far too great for the woman told that she does not have a cancer but has something suspicious. Admittedly most of our people handle health the same way we handle our cars. Until it stops, they do not call a mechanic; until there is pain and bleeding, they will not go for a check-up, much more so if it is a check-up that is invasive on privacy as gynaecological exams are. We, therefore, have a major issue in this. In referrals and follow-up there is both the medical factor and the client factor. Unfortunately, the experiences women have had within the health sector in terms of nonfunctioning referrals would usually make them reluctant to go to the next stage, because they have a feeling that they will not be received well and be treated promptly.

Role of HIV

In the last 10 years we have seen an increase in the number of cervical dysplasias, particularly severe dysplasia. We have also seen more dysplasia among younger women that is associated with HIV. Women younger than 25 years with severe dysplasia have perhaps a 90% chance of being HIV positive.

Looking Ahead

National Programme

Kenya is in the process of putting together our National Cancer Control Programme. The government needs a policy document and a programme to focus the activity we do individually and collectively. Unfortunately, in Kenya at the moment, there is no regulation of cancer treatment and anticancer drugs are expensive.

Public Education

Kenya's very strong women's movement has been underutilised. There is hardly any rural Kenyan woman who does not belong to an organisation, be it church, social, income generating or even a drinking group. We could reach women through these groups to focus on screening. Screening registers could be maintained by such groups (rather than hospitals) and checking on screening could become part of the business of the group's annual meeting.

Technical Capacity Building

The basic training of nurses, doctors, and technicians has not focused on cancer, particularly preventable cancers. In-service training of these professionals will require looking at the problems in Kenya and the socio-economic issues. Human resources development will be a key area of concern if we are to move forward.

Equipment

Selection of equipment is extremely important. In the past three years, I have used the magnifying eye-piece sent by PATH. In addition to using it for visual inspection, I have used it as a rudimentary colposcope with about 120 women to take biopsies. Although visual inspection seems to require only basic equipment, even speculums are not available in all women's clinics. We must decide if we are willing to make at least the minimum investment needed. The health system factors have become a major issue because, as with maternal mortality, new technology will not solve these health problems without a commitment to address the related system factors.

How can we make the best out of a bad situation?

Alternatives

There are three different alternatives:

1. *Giving up and moving to where things work.* Many people have done this.
2. *Staying within and keeping quiet.* Doing your little things in your own small clinic and not bothering if those women die (hopefully not your sister or your mother). But you try to avoid these deaths within the family and try not to care much about the others.
3. *Stay behind and advocate for change.* This is the most difficult area for both the health and programme people, because when we are involved in programmes we also want to look nice all the time, since if you do not and you are controversial, then your programmes can be shut down. What can be done so that we manage to stay on board as a Director of Health Services or Programme Manager of Maternal Child Health (MCH) but at the same time tell the truth?

Unfortunately, we have not been very good at this. For many of us it has been easier to survive than to make change take place, and until there are changes in our systems we will not do much for

the woman. If today we discovered a stain that we could put in the cervix and all the cancer cells were magnified a thousand times and you could see it from ten kilometres away, it would still make no difference for the African woman, not with the kind of health systems that we have and claim to be running. The health systems issue is not just a cervical cancer one or a reproductive health issue, but a health issue.

Turning Projects into Programmes

We must recognise that doctors and nurses, demoralised as they are now, will not take extra time to do any of these steps except in the context of a special project. Anything that depends on them doing more, which they feel is extra work for which they are not getting paid, will not get done. Only when we accept this can we turn projects into programmes and influence the health of women.

With regard to research we must do it in a holistic manner—eating the whole fruit (that is, diagnosis, treatment, follow-up, referrals), rather than just peeling off the skin. Are all the components going to function? What about the health system? Does it allow that woman who comes from the coastal part of Kenya, who was diagnosed in Mombasa, to pass through the impassable roads, to reach Nairobi and be welcomed as a human being, and to get treatment within a week of arrival? Until we are serious enough to address these particular areas, then let us admit that we are happier to be blind and to be able to touch the different parts of the elephant and describe those parts differently.

Conclusion

We have seen exciting times in terms of possibilities—Kenya is a country with great potential, a well-structured health system, and women's groups all over the country which could be utilised a lot more. But we have also gone through periods where those comparative advantages and those particular windows of opportunities have not been utilised. Kenya provides a good example not only of how opportunities can be missed but of how inadequate organisation can hamper progress in cervical cancer control. It is up to us to take these opportunities; I believe that we can do more for cervical cancer. Let us endeavour to raise awareness. Let us improve on performance. Let us use available technology. What it requires is commitment at all levels—provider, donor, government and women's groups.

Treatment Experiences in Low-Resource Settings

Dr Harshad Sanghvi

Introduction

This paper reviews the key clinical issues related to the treatment of precancerous lesions of the cervix in low-resource settings.

Factors Affecting the Choice of Treatment Methods

1. *Efficacy and safety:* Treatment has to be effective and safe, with a low potential for side effects.
2. *Providers:* Who is going to provide such treatment? There are limited numbers of gynaecologists, oncologists and physicians in most countries. Treatment programmes that serve women on a national level and reach rural areas will have to use well-trained nurses. Treatment modalities selected for national programmes should be options that can be provided by the nurses who are likely to execute them.
3. *Training:* What kind of training is required?
4. *Size and site of the lesion:* Very large lesions may require a different type of therapy than smaller lesions.
5. *Equipment and supplies*
6. *Cost of treatment*: This must be balanced with the cost of not treating and the cost involved in treating advanced cases.
7. *Effect on future fertility*
8. *Safety in pregnancy*
9. *Acceptability:* By both clients and providers

What Kind of Lesions Need Treatment?

The majority of low-grade lesions will regress and may not require treatment. However, where follow-up systems are not particularly good, we have to determine if treatment of these lesions is, in fact, advisable. It is generally accepted that high-grade lesions require treatment.

Risk of Over-Treatment

Doctors and providers do not simply treat people; they offer treatment. It is up to the provider to counsel patients so that the patients can make informed decisions about their treatment. There is a likelihood of over-treatment almost on a daily basis, e.g. for “clinical malaria” or STD syndromes. We need to look at treatment modalities for precancerous lesions of the cervix in a similar way and determine what risks are involved in over-treatment.

All of us must be concerned about the ramifications of performing a LEEP procedure on somebody who has a 30% chance of not having the disease. Based on Wright’s unpublished data on HIV shedding after treatment, we are putting women at an increased risk of HIV. The amount of shedding that may occur from precancerous conditions of the cervix, however, should also be discussed.

Presently in many parts of this region, treatment is offered just on the basis of a repeat abnormal Pap smear and often involves cone biopsy or even hysterectomy because less invasive treatments are not widely available. According to a study in South Africa by Megevand et al (1996), with just VIA 8.6/1,000 women screened would have received unnecessary treatment while with just repeat Pap smear 14.4/1,000 would have been treated unnecessarily.

See and Treat Approach

The see and treat approach involves visual inspection of the cervix followed immediately by treatment if abnormalities are present. This approach has been commonly used when doing colposcopy on women who are Pap positive. The question remains whether a see and treat approach based on VIA would be feasible or acceptable. We may over-treat if we rely on visual inspection alone. If we follow visual inspection with a Pap smear on those women whom we thought to be positive, then the level of over-treatment would be reduced. Demonstration projects of this kind are urgently needed to answer the questions related to a see and treat approach:

1. What is the safety and adequacy of treatment of precancerous lesions in primary health care settings compared to tertiary care centres or university departments?
2. What is the acceptability of treatment provided by nurses in health centres—would this be acceptable to our clients?
3. What additional infrastructure or logistics support is needed?
4. What counselling and follow-up care will be needed?
5. What existing services will be most compatible with cervical cancer screening and treatment?

We have to integrate these services and provide a broad package of services. We also need to evaluate the consequences of treating some cases as dysplasia which are actually invasive cancers versus the consequences of not screening at all.

Relationship Between HIV and CIN

Two studies (Miotti 1996 and Maggwa 1993) have found a relationship between HIV and CIN (odds ratio 2.2 (1.1-4.8) and odds ratio 2.7 (1.3-5.5)). Because we know that there is a strong association between HIV and CIN we are concerned about the form of treatment. If there is excessive HIV shedding, then we have two options:

1. What is it that we can do to prevent transmission of HIV if the treatment is going to result in excessive HIV shedding? Can we then combine it with messages to use condoms or to avoid sexual activity for four weeks? We need more information on this.
2. What is it that we have to do if we leave the lesion as it is?

Tom Wright has had the first data available about shedding. It appears that there may be four weeks of HIV shedding following treatment. As part of our counselling, it is important that patients are made aware of any potential risks of treatment given to them.

Specific Treatment Options

Many years ago in the United States it was common to do ball electrocautery of the cervix at the postnatal visit at six weeks. Any dysplastic changes in the transformation zone would be destroyed. Because we believe in this long incubation period of HPV infection of the cell, it was thought this could guarantee the prevention of cervical dysplasia for a long period of time. This approach may warrant further research.

Two out-patient options available for treatment of cervical dysplasia have been very well studied, cryotherapy and LEEP.[4] The most important difference between cryotherapy and LEEP is that in LEEP you get some tissue which you can send off to the pathologist to confirm that you have got rid of all the lesion, to determine if there was any invasive disease, or to document the fact that you are dealing with histologically proven cervical cancer.

A treatment survey performed by PATH[3] with responses from 31 African organisations and individuals indicates that hysterectomy and cone biopsy are the primary treatment modalities for dysplasia in Africa. These data emphasise the point that most of the treatment available in Africa is surgical and if we are going to base our diagnosis on tests which have substantial false positive rates, that is what patients will be subjected to. There are two important things we need to do:

1. Refine our tests.
2. Move towards the more conservative types of treatment.

Conclusions

In terms of implications for East, Central, and Southern Africa, we have limited facilities for confirmation of Pap smear findings. Treatment decisions are often made on the basis of Pap tests alone. There is limited availability of conservative treatments (cryotherapy and LEEP), and therefore treatment modalities are often surgical (conisation or hysterectomy). There is an urgent need to demonstrate the safety and efficacy of *"see and treat"*, *"see and refer"* or *"see and retest"* approaches in demonstration projects.

[4] Bishop A, Sherris J, Tsu VD. *Cervical Dysplasia Treatment in Developing Countries: A Situation Analysis.* PATH, Seattle, 1995.

Discussion (Rapporteur: Ms. Maryjane Lacoste)

The lively discussion included issues directly related to the treatment of precancerous lesions, as well as broader issues of screening and overall programme strategy in response to points raised by the speakers in this session.

With regard to treatment, there were both concerns and observations.

- ***Consequences of over-treatment.*** The potential risks associated with over-treatment (e.g., when screening has low specificity) were discussed in response to Dr Sanghvi's point about syndromic treatment for other health problems. Dr Denny called for caution because surgical treatment (for dysplasia) is more serious than medical treatment like antimalarials and because women with dysplasia are generally asymptomatic and not in any immediate danger.
  Dr Sanghvi called for a radical shift in our thinking with regard to dysplasia: we should think of dysplasia management as a *preventive* measure for cervical cancer (like immunisations) and think of the risks and benefits in those terms, rather than just treating a specific condition. The balance of risks and benefits may differ from country to country.
- ***Effect of HIV on treatment risks.*** Although the data are not yet clear, there was concern about the possible effect of HIV infection on both the effectiveness of treatment and side effects. Dr Denny said that HIV-positive women may experience higher recurrence or failure rates after treatment, so follow-up is particularly critical. Treatment may also increase HIV transmission risks during the second to fourth weeks afterwards, if women are sexually active. Dr Chirenje asked whether or not women identified with precancerous lesions ought to be offered HIV testing and whether that information should influence the choice of treatment method.
- ***Effectiveness of cryotherapy***. Dr Chirenje reported that, based on preliminary findings of a study in Zimbabwe, there is a higher recurrence rate six months after treatment with cryotherapy. Dr Ngwalle maintained that cryotherapy was limited in both the size and depth of lesions it could be used for and stated his preference for LEEP if he had only one method.
- ***Other treatment methods***. Dr Rogo mentioned another mode of therapy from China called photothermal treatment, which uses heat to destroy dysplasia. Dr Chirenje explained that often cone biopsy is done, even with low-grade lesions, because it is all that is available.
- ***Costs***. Mr Kaggwa cautioned about the need to consider all the costs involved, especially at the beginning. This includes the equipment, training, and the increase in caseload related to more screening. Mrs Msike stressed the need to consider both the cost to the government and the cost to individual women. With the increased emphasis on cost recovery and with more privatisation of care in the region, rural women may be expected to bear more of the costs. This needs to be taken into account when designing treatment programmes. Dr Rogo challenged the assumption that privatisation necessarily makes services inaccessible, and suggested that it is better to design quality services first and then work to reduce their cost.

Several broader programmatic issues were raised, but some were deferred to the next session.

- ***Advocacy***. Dr Ojwang seconded Dr Rogo's call for those who are informed about the problem to take a more active role in convincing other health workers and policymakers about the seriousness of cervical cancer in the region.
- ***Invasive cancer***. Dr Ojwang voiced a common concern—what to do about the many cases of invasive cancer that will be found with increased screening, especially in light of the poor state of treatment capabilities in the region. Dr Sanghvi responded that, while it is true that some kind of treatment must be offered, it is incumbent on us to take a public health perspective and make some hard choices about what is feasible and whether we should invest more of our limited resources in screening or in treatment of invasive disease.
- ***Screening***. Dr Denny said that she expects it will be difficult to add screening responsibilities to current nursing roles in South Africa, because nurses already feel over-burdened; they will want extra pay to take this on. She cautioned that we should be sure to get input from health workers when developing new screening or treatment programmes.
- ***Mobile clinics***. Mr Kaggwa suggested that mobile clinics (as in the South Africa project) might be a viable way to be sure that services reach the women who need them.
- ***Demonstration projects***. When asked what the components of a demonstration project should be, Dr Sanghvi responded that the first component would be community education; one would also have to set up a system for screening, train health care workers to provide the services, set up facilities for treating both precancerous and cancerous lesions, and establish follow-up and evaluation mechanisms. We now have some good screening data, but more programmatic data are needed on issues such as whether people will come for screening, whether they will accept treatment, and whether people will accept such services from a primary health care worker. These data should be part of any future demonstration projects.
- ***See and treat***. Given the specificity level for VIA presented in the Zimbabwe data (50-60%), the question was raised as to whether it is appropriate to move ahead with a "see and treat" approach. Dr Sanghvi replied that all approaches ought to be considered, evaluated, and compared with each other. Depending on the resources available in a given setting, the best option may differ for different places. Dr Chirenje added that he thought the specificity could be improved by retraining.
- ***Effect of HIV on screening***. In addition to its potential effect on treatment, the high rates of HIV in the region may affect other aspects of cervical cancer management. Dr Denny said that there is more rapid progression of dysplasia among HIV-positive women. Dr Sanghvi noted that low-cost screening methods, that can be repeated more frequently, and less invasive treatments are even more critical in areas with high rates of HIV.
- ***Pessimism and patience.*** Mr Kaggwa cautioned that we should not be too pessimistic. He explained that the immunisation programme in Uganda started very slowly and took time to cover the whole country, as did the idea of universal primary education. He encouraged the group to go ahead and plan for action, but to realise that it will not happen overnight.
  Dr Rogo was less optimistic since he felt it was easier to achieve these kinds of successes with programmes for children than it will be for comparable services for women. He said we must first recognise mistakes and weaknesses in the past in order to move forward. Governments need to start putting their own money into reproductive health instead of relying on donors for all of it, as they do now.

Situation Analysis for Cervical Cancer in the East, Central and Southern African Countries

Dr Z Michael Chirenje and Mr Simbarashe Rusakaniko (and Kirumbi LW, Makuta-Tlebere P, Makoe L, Kaggwa S, Ngwalle EW, Mpanju-Shumbusho W)

Introduction

The broad objective of this study was to establish existing factors influencing early diagnosis and treatment of cervical cancer in five East, Central and Southern African (ECSA) countries.

The specific objectives were to determine:

- the existing facilities and procedures for cervical cancer screening, diagnosis and treatment at the primary, secondary and tertiary levels.
- the human resources available to diagnose and treat cervical cancer and its precursors at those levels.
- the communication and referral structures available at those levels of service delivery.

Study Sites

Randomly selected primary, secondary and tertiary facilities in five countries (including both public and private health institutions) were determined.

Duration of the Study

The study was carried out in six months beginning May 1, 1997.

Methodology

This was a multicentre, cross-sectional study conducted in Kenya, Lesotho, Tanzania, Uganda and Zimbabwe. Data were collected from randomly selected primary health centres (PHCs) and district, provincial and tertiary hospitals. The study was carried out at 150 PHC facilities (ranging from 20 in Lesotho to 40 in Tanzania), 83 district/provincial hospitals (ranging from 11 in Zimbabwe to 20 in Tanzania and Uganda), and 14 tertiary institutions (with 1 each in Kenya and Lesotho and 4 each in Tanzania, Uganda, and Zimbabwe). Two types of questionnaires were used, one at the PHC level and the other at the other three levels of hospitals. Each questionnaire addressed: human resources for diagnostic and treatment services, treatments offered, and communication and referral structures. Observational visits to all the selected health institutions were done using a checklist to document the capacity of facilities for screening, diagnosis, treatment, and communication.

Conclusions

- **Basic requirements for cervical cancer screening** are available at most of the health institutions in ECSA.
  - At the *PHC level*, 81% of facilities reported having equipment for speculum examination (ranging from 60% in Lesotho to 100% in Zimbabwe).
  - At the *district and provincial hospital level*, 99% of facilities have exam rooms, 99% have exam couches, 86% have a light source, 94% have privacy screens, 84% have gloves, 90% have sterilisers, 95% have a speculum, 73% have spatula, 83% have glass slides, and 51% have fixatives.
  - At the *tertiary level*, all study hospitals in Kenya, Lesotho and Zimbabwe had all the basic facilities and supplies needed to do screening for cervical cancer, while 3 out of 4 of those in Tanzania and Uganda had them.

- There is **inadequate cervical cancer screening** at all levels of health care in the region.
  - At the *PHC level*, an average of 4 women are screened per month (with <0.5 per month in Kenya, one each in Lesotho, Tanzania and Uganda, and 9 per month in Zimbabwe).
  - At the *district and provincial level*, an average of 6 women are screened per week (ranging from <0.5 per week in Tanzania to 10 per week in Uganda).
  - At the *tertiary hospital level*, an average of 29 women are screened per week (ranging from 10 per week in Tanzania to 50 per week in Kenya).
  - At the *district and provincial level*, 46% of those included in the survey offered screening services (from 5% in Tanzania to 94% in Lesotho).
  - At the *tertiary level*, all but a few facilities in Tanzania and Uganda offered screening services.
  - The average cost of Pap smear where available is US $10, which is largely prohibitive.

- **Nurses are not adequately utilised** in screening patients for cervical cancer, especially at district, provincial and tertiary levels.

- **Treatment facilities for precancerous lesions**, particularly cryotherapy, are inadequate at district, provincial and tertiary levels.
  - Of all *PHC* facilities reporting, only one had loop excision (in Tanzania) and none had cryotherapy.
  - At *district and provincial level* facilities, only Kenya, Lesotho and Zimbabwe had any cryotherapy while only Kenya and Tanzania had any loop excision.
  - At *tertiary level* facilities, Kenya and Zimbabwe had both cryotherapy and loop excision, Lesotho had loop excision but not cryotherapy, one hospital in Uganda had cryotherapy but none had loop excision, and those in Tanzania had neither.

- **Radiotherapy treatment** centres in the region are extremely inadequate.
  - At the *district and provincial levels*, only one facility (in Zimbabwe) had radiotherapy available.

  - At the *tertiary hospital level*, all 4 facilities in Zimbabwe have radiotherapy available; Kenya, Tanzania and Uganda had one facility each with it, while Lesotho had none.

- There is a **shortage of gynaecologists, cytotechnicians, and histopathologists** at district and provincial hospitals and of oncosurgeons, radiotherapists and physicists at the tertiary level.

- There is a total **lack of policy guidelines** on cervical cancer screening in the ECSA region.

- **Palliative care** for invasive cervical cancer is inadequate.
  - At the *PHC level*, only 29% of facilities have counselling services (ranging from no counselling services available in Uganda to 83% of facilities with counselling services in Zimbabwe).
  - At the *PHC level*, only 29% have palliative treatment available (ranging from 10% in Uganda and Zimbabwe to 55% in Lesotho).

- **Record keeping** on screening for cervical cancer is very poor.

Recommendations

There is a serious and urgent need to improve services for cervical cancer in the ESCA region. Specific recommendations include:

- Improve screening for cervical precursors in the ESCA region at PHC level by training nurses in cervical screening.
- Emphasise provision of adequate treatment facilities at district and provincial levels (cone biopsy, cryotherapy, loop excision).
- Address specific age of screening and frequency of screening in national policy guidelines.
- Develop national policy guidelines on palliative care in the region, making sure that adequate analgesia and supportive facilities are available at all times.
- Establish effective cancer registries at regional and country levels to enable adequate assessment of the impact of cervical cancer screening programmes.

Programme Approaches Towards Cervical Cancer Control in Low-Resource Settings

Dr Vivien Tsu

Introduction

During the past decade, much has been written about the challenges involved in controlling cervical cancer in low-resource settings and strategies that are likely to be most effective in these settings. The PATH document, *Planning Appropriate Cervical Cancer Control Programs*, summarises various research, programme experience, and analyses related to cervical cancer control, with a focus on programme and policy implications. The document presents numerous suggestions for programme managers and policymakers to consider as they design cervical cancer control programmes. Overall, programmes must plan to achieve the minimum programme goals listed below to have an impact on cervical cancer incidence and mortality.

Recommended Programme Goals

- Increase awareness of cervical cancer and preventive, health-seeking behaviour among women aged 35 to 50 (a reasonable target age group for a new cervical cancer control programme with limited resources).
- Screen all women aged 35 to 50 at least once before expanding services to other age groups or decreasing the interval between screening.
- Treat women with high-grade dysplasia, refer those with invasive disease where possible, and provide palliative care for women with advanced cancer.
- Collect service delivery statistics that will facilitate ongoing monitoring and evaluation of programme activities and outputs.

Programme Planning

As a new or expanded programme is designed, it is crucial to ensure strong management and support for programme strategies at all levels of the health care system. Gaining this support can be made easier by clearly demonstrating the need and demand for a cervical cancer control programme. Analyses of the estimated costs and impact of suggested programme approaches also are important. Another important part of programme planning is to involve potential providers and clients in programme design to ensure that their perspectives are considered and their needs are met.

Activities that are key to achieving minimum programme goals in many low-resource settings include:

- Coordinating cervical cancer control services with health programmes that offer related services and/or reach older women.
- Identifying and addressing bottlenecks to effective service delivery (for example, inadequate cytology services or inadequate information systems) before initiating a new programme.

- Removing regulatory barriers to broadening access to services, such as regulations that do not allow nurses to provide Pap smears.
- Ensuring that providers at all levels are trained in appropriate cervical cancer control care, including counselling skills.
- Using innovative, culturally appropriate, field-tested strategies to reach out to under-served, older women.
- Supporting targeted research on new screening and treatment approaches that may increase access to services and cut programme costs.

Conclusions

Through creative service delivery strategies and well-trained, dedicated staff, new cervical cancer control programmes can address the challenges of providing appropriate screening and treatment and ultimately have a lasting effect on women's health.

Cost Considerations for National Screening and Treatment Programmes

Dr Alex van den Heever

Introduction

This presentation was based on a 1990 cost-effectiveness analysis of a potential comprehensive national screening programme for cervical cancer in South Africa using a computer simulation. While cost-effectiveness is important, direct financial costs are often of greater interest to governments and funders and must, therefore, be made clear in any analysis. Planners need to consider the impact of a programme on the annual budget, the direct cost per patient, and the cost-per-unit of performance (e.g., death averted) when making decisions. In addition to direct financial costs, social costs (including indirect costs and external costs) should be taken into account, especially when direct costs between one programme and another are equal. Discounting of costs over time is important in any simulation model.

Key Variables to Consider

- Incidence of CIN. This can be estimated by working back from mortality rates.
- Progression rates between CIN I, II, III and invasive carcinoma.
- Costs of treatment at all stages of disease.
- Costs of preventive interventions.
- Costs of false positives and negatives based on screening method, reliability of method and quality of personnel.
- Ability to follow up patients. Educational level of patients could affect this, as could attitude and quality of staff and systems of formal and informal communication.

- Population data. This should include lifetime population projections, including current age distribution, mortality tables and life expectancy. It should also be divided by region and by socio-economic group, and take HIV impact into account.

Outcome measures can include mortality (number of deaths), potential years of life lost or life expectancy. Alternatively, survival data such as potential years of life saved or quality of life (e.g., disability adjusted life years or DALYs) can be considered.

Utility of Modelling

Can analysis suggest the optimal period for screening? Looking at different scenarios for a national screening programme versus no screening can provide specific information on the cost of each potential year of life saved. It is possible to develop a standardised model to compare different screening programmes which help with decision making. Using assumptions based on available data relevant to South Africa, I developed models of two scenarios of women aged 20 and older, one with 60% and one with 100% compliance with screening. The model has shown that the biggest impact of cervical cancer screening, in our population, is on women between 35 and 59 years of age. Because of the low incidence of invasive cancer in younger ages, it is not until age 35 that the cost of an intervention (screening) is lower than that of no screening intervention. For women older than 59, the remaining life span is shorter, thus reducing the number of years that can be gained from screening.

Conclusion

Cervical cancer is a major problem in the region. We do have some resources as well as some bottlenecks. We could develop a template model of cervical cancer screening cost-effectiveness. It will be important to include HIV prevalence into such a model, as mortality tables and life expectancy have been affected by the epidemic. However, a major barrier to improving programmes remains the lack of awareness of cervical cancer among women.

Discussion (Rapporteur: Ms. Kathy Shapiro)

This discussion addressed a variety of policy and strategy questions.

- ***Best age for screening***. Dr Ojwang asked if the recommended age should not be lowered to 25 in this region because in Kenya the onset of sexual activity is quite young and the peak age for cervical cancer is 42 years. Dr Chirenje also maintained that there is good evidence that the peak incidence of cervical cancer is in the late 30s in Zimbabwe. Dr Tsu responded that where there are reliable data showing a much younger peak in incidence, the age can certainly be adjusted downward. However, the limited cancer registry data currently available for this region (similar to elsewhere in the world) shows that 85% of invasive cases are still diagnosed among women 35 and older.
- ***Palliative care***. The stage of invasive disease for which only palliative care will be recommended (as opposed to more active treatment) will depend on the local availability of treatment services. Dr van den Heever suggested that cost also be considered in making the policy decision. Dr Chirenje listed some of the basic components of palliative care, such as sanitary pads, urine bags (because fistula is common), and pain tablets.
- ***Information, education and communication (IEC) materials***. Dr Denny expressed concern that the development of appropriate IEC materials is complex and expensive. They need to be developed locally, and adequate resources must be allocated. Dr van den Heever noted that the extent to which low coverage of screening increases the cost per case detected (according to his model) is the extent to which spending on IEC materials to increase uptake is justified.
- ***Costs and funding***. Dr van den Heever noted that although it is difficult to calculate social costs in monetary terms (such as the impact on children if their mother dies), outcomes like the cost per year of life saved or quality-adjusted life years can help in suggesting the impact on families and communities. Dr Sanghvi pointed out that most countries have no budget line items for reproductive health. He asked how we can get governments to prioritise women's health and become independent of donors. Dr Tsu suggested that we all need to try to do more simple cost analyses of our programmes and present the results in understandable form to policymakers. Dr van den Heever urged the group to take implicit costs and make them explicit to policymakers; he suggested the kind of modelling he did can be useful in policy development. Dr Muchiri noted the waste involved when resources, like expensive laboratory equipment, are underutilised.
- ***Women's perspectives***. Ms. Beattie pointed out the need to incorporate women's perspectives about cervical cancer screening in the design of appropriate services.
- ***Integration***. Dr Mpanju-Shumbusho urged the group to look for opportunities to piggy-back on existing activities and entry points, such as adolescent health and STD interventions, family planning and community-based distribution (CBD) programmes, HIV/AIDS programmes, growth monitoring and immunisation programmes, and traditional midwives.

BOTSWANA

Country Profile

Prepared by: Ms. Kereng Motswaledi, Nurse Midwife, MCH/FP Officer, Family Health Division, (presenter)

Epidemiology

- It is estimated that in 1994 about 34% of malignant tumours were due to cervical cancer,
  * in 1995, this figure rose to 36%,
  * in 1996, 13%,
  * and in 1997, 16%

Screening Currently Available

- VIA or Pap smear is taken only if abnormality is noted; the average turnaround time for Pap smears is one month.
- Cytology is performed mainly at two hospitals which each have a trained cytologist and two cytotechnicians who refer as necessary to the pathologist; colposcopy is available at two hospitals.

Treatment

- Surgery is rare, as most cases present to hospitals at very late stages.
- About 60 cases are referred out for radiotherapy in South Africa or Zimbabwe each year.

Current Policy

Current policy states that cervical cancer screenings are to be provided as part of an integrated approach to family planning in which multiple services are offered at a single visit. IEC is mandated at the individual and community level.

Challenges to Cervical Cancer Programme

- Staff shortages and accessibility problems: they do not have enough trained personnel, with only two hospitals able to screen Pap smears and four cytotechnicians.

Future Plan

- Train more cytotechnicians.
- Develop cervical cancer protocols.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Research and Evaluation
   - Gather more epidemiological data.
   - KAP and behaviour coverage.
   - Establish a cancer registry.

2) Policies and Guidelines
   - Establish policy on cervical cancer as a specific item.
   - Establish protocol and guidelines for screening, diagnosis and management.
   - Integrate policy into the existing framework: MCH/FP, STD/AIDS, Adolescent Health, Safe Motherhood.
   - Establish policy on IEC and counselling.
   - Establish policy on training.
   - Establish policy on palliative care.

3) Training
   - Revise in-service training curricula.
   - Update training of trainers on screening and treatment of cervical cancer.
   - Enhance the training of technicians (on the job training).
   - Perform training of doctors on precancerous lesions.
   - Integrate within existing training programmes.

4) Services, including screening and treatment
   - Improve screening by VIA (include acetic acid).
   - Provide on-the-job training for screeners to filter normal smears.
   - Streamline for colposcopic management and referral; incorporate treatment guidelines.
   - Improve record keeping and retrieval for follow-up.
   - Strengthen counselling.
   - Strengthen and emphasise palliative care.

5) Advocacy and IEC
   - Acceptance by the task force of the need for a cervical cancer policy.
   - Policy writing by the task force and presentation to MOH.
   - Develop educational materials on cervical cancer suited to different target groups.
   - Disseminate information to target groups.
   - Emphasise training of cytotechnicians and screeners: VIA improvements.

ERITREA

Country Profile

Prepared by: Dr Gioton Weldemichael, Gynecologist, Ministry of Health, (presenter) and Mrs Mebrat Zere

Epidemiology

- Of 4,000 patients seen at the Gynaecological OPD of the National Referral Centre during 1997, 39 (or 9.75/1,000) patients were diagnosed with cervical cancer.
- Only two of these were in an early stage of the disease; 37 were in stages III and IV.
- Of the 39 patients, 33% were less than 40 years old, 67% were greater than 40 years old.

Screening Currently Available

- The Pap smear has not yet been introduced as a means of screening or diagnosis.
- Screening of any kind has not yet been introduced on a large scale.

Treatment

- Cauterisation (cervical dysplasia).
- Cone biopsy—for cervical dysplasia and carcinoma *in situ*.
- Extended abdominal hysterectomy and lymph node sampling for early stages of cervical cancer.

Current Policy

- Current National Health Policy is based on the concept and principles of primary health care and is designed with the goal of providing equitable and sustainable health services to its population. Cervical cancer is not yet recognised as a priority.

Challenges to Cervical Cancer Programme

- Lack of trained cytotechnicians in-country; only one pathologist.
- Due to over thirty years of war, a great deal of infrastructure, including health service facilities, have been destroyed.
- Illiteracy and lack of public awareness regarding regular preventative check-ups.
- Poor health status among women and children (their health is not a priority).

Future Plan

The future plan is to finish a study in progress that will give them an idea of the prevalence of cervical cancer and present workable recommendations for action. This includes:

- Putting practical knowledge of cervical cancer, prevention, etc. in curricula in schools.
- Training cytotechnicians.
- Creating awareness among health staff (especially women), and among the general population.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Review reproductive health policy on cervical cancer.
   - Give feedback from Nairobi meeting.
   - Get policy on cervical cancer to Zimbabwe by December 1998.

2) Advocacy and IEC (Information, Education and Communication)
   - Perform a needs assessment for information, education, communication, and advocacy and identification of target groups; establish needs for each target group.

3) Services, including screening and treatment
   - Give orientations and update in-service training of health service providers on:
     * The need for counselling at all levels.
     * How to examine the woman as a whole.
     * Screening skills and treatment options for CIN and invasive cervical cancer.
   - Strengthen the weaker referral systems.
   - Update skills on proper record keeping.
   - Discuss ways to accommodate the expected increased workload.

4) Training
   - Create a country training task force which will put more emphasis on cervical cancer in preservice training.
   - Change the training method to include more practical aspects of the available screening and treatment options for CIN and invasive cervical cancer.
   - Acquire and disseminate updated teaching materials appropriate to the different training centres of different cadres.

5) Research and Evaluation
   - Collect basic epidemiological data; establish a cancer registry.
   - Review existing literature.
   - Form regional coordination groups.
   - Collect data on cervical cancer fatality rates and 5-year survival rates.
   - Update policy according to these findings.

ETHIOPIA

Country Profile

Prepared by: Ms Lea Wolde Giorgis, Maternal Health Expert, Ministry of Health (presenter)

Epidemiology

- According to literature reviewed by the Good Samaritan Association, it is safe to assume that the incidence of cervical cancer in Ethiopian women is high.
- One study found that cervical carcinoma was the most frequently found malignancy of 243 malignancies.
- A retrospective study found that women of childbearing age and older women are affected by cervical cancer in equal proportions; the mean age of occurrence is 44.5 years.
- Data from the pathology laboratory in Addis Ababa indicates that there were approximately 30 cases per 100,000 in 1997.
- Peak frequency is between the ages of 40 and 49.

Screening Currently Available

- There are 11 trained pathologists working in 3 laboratories in Addis Ababa, 1 in Jimma, and 1 in Gondar; these laboratories handle approximately 9,000 specimens per year.
- There are 5 trained cytotechnicians in Addis Ababa.
- There are no colposcopy or LEEP facilities.

Treatment

- A radiation therapy treatment facility has been established with the help of the International Atomic Energy Agency; this facility has the capacity to treat 600 patients per year and will soon be expanded.

Challenges to Cervical Cancer Programme

- Other health needs and priorities are competing for resources.
- The existing health infrastructure is very weak.

Future Plan

- Ethiopia would like to implement a screening programme through existing health care services.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Convince policymakers to establish policies and guidelines regarding cervical cancer.

2) Advocacy and IEC
   - Collect data.
   - Do health education on primary prevention of cervical cancer.

3) Services, including screening and treatment
   - Focus on high risk women (older, multiparous, symptomatic).
   - Expand sites for screening and treatment.
   - Concentrate on early treatment; make hysterectomies available at the district level.
   - For dysplasia, LEEP and cryotherapy are available.

4) Training
   - Counselling.
     - Health education components.
     - Integration.
     - Medical personnel to be trained.
   - Screening.
     - VIA and Pap smears.
     - Train nurses, midwives, and laboratory technicians.
   - Treatment.
     - Train doctors and nurses in LEEP and cryotherapy

5) Research
   - Collect baseline data.
   - Report cervical cancer referrals.
   - Examine cultural risk factors.

KENYA

Country Profile

Prepared by: Dr Lucy Muchiri, (presenter), Rachel Rukaria, Nancy Kidula, Dr Ominde Ochala, Dr Makumi, Professor S. B. Ojwang, Dr Sanghvi, Dr E. Obwaka, Dr Leah Kirumbi, Dr Khama Rogo, Mrs Ngure, and Dr M. A. Hassan

Epidemiology

- The Kenyatta National Hospital Cancer Registry (which estimates that it receives between 8% and 20% of all cancer cases) receives over 500 new cases of cervical cancer referred for treatment every year.
- Cervical cancer accounts for 59% of all documented genital cancers nation wide.
- 64% of patients are between 30 and 50 years old; the average age is 42.
- They have experienced "down-staging" in the last few years.
  - In 1980, 62% of patients were in stage III or greater.
  - In 1990, 53% of patients were in stage III or greater.
  - In 1990, 28% vs. 35% were in stage II.
  - Less than 12% of patients presented in stage I, the stage when surgery achieves the highest cure rate.
- About 15% of patients in Kenya are considered operable.

Screening Currently Available

- Pap smears are the most commonly used method of diagnosis in Kenya, but this procedure is limited to more urban areas. This service is subsidised in family planning clinics and in the private sector, which has helped increase access for many women in urban areas.
- The use of VIA and VIAM with a Gynoscope are in the process of being evaluated; this procedure may be better suited to low-resource settings, but supplies such as gloves and speculums are still lacking.
- Colposcopic evaluation is rare following an abnormal Pap smear; therefore, this is not used as a primary tool for cervical cancer.

Treatment

- Cold cone biopsy—most hospitals have the capacity to do this.
- Cryotherapy—available in public health facilities but not always operational due to logistical problems; cryotherapy is noninvasive and less expensive than surgery, but the disadvantage is that the tissue is not available for further evaluation.
- Loop excision (LEEP) is not being performed except in some private institutions; there are advantages such as accessible tissue samples but the disadvantages include the cost of equipment, accessories and training.
- Surgery is an option for younger patients.

Current Policy

- Cervical cancer is addressed by the National Reproductive Health Strategy (1997-2010) as a problem that needs to be highlighted in order to reduce the morbidity and mortality associated with it.
- Service providers are encouraged to carry out VIA and VIAM and to refer women to centres where Pap smears can be done when a lesion is noted.
- Clients should be counselled on the benefits of having a Pap smear done; a Pap smear is recommended to all women aged 25 to 64 at least once every 5 years.

Challenges to Cervical Cancer Programme

- Other public health concerns traditionally take priority over cervical cancer, such as malaria and diarrheal diseases that affect young children.
- Public awareness is low, and services are generally unaffordable.
- The programme faces shortages of equipment and supplies, trained personnel, clinic space and lab space.
- There are less than ten colposcopes in all of Kenya, with long waiting lists and frequent breakdowns.

Future Plan

- Expand the few existing services at all levels of health care provision.
- Start small demonstration projects to determine the feasibility of alternative screening and treatment strategies.
- Support the already established cervical cancer prevention task force with a separate budget, such as the budget that fuels the immunisation effort.
- Revise teaching curricula for all health workers.
- Initiate a public health campaign.
- Establish subsidised quality control facilities so that the facilities doing Pap smears are standardised and of high quality.
- Increase the capacity of all provincial hospitals and some district hospitals to do Pap smears, colposcopy, cryotherapy and LEEP.
- Establish more fee-for-service screening and training facilities, especially in urban areas.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Support and implement existing policy on cervical cancer.

2) Advocacy and IEC
   - Perform needs assessment and review existing national IEC strategy.
   - Launch cervical cancer programme.

3) Services, including screening and treatment
   - Adopt two-stage screening model utilising VIA and cytology with appropriate referral beginning in 4 provinces.

4) Training
   - Integrate cervical cancer screening and treatment into preservice and in-service curricula of health providers.

5) Research and Evaluation
   - Establish a national cancer registry to collect, analyse and disseminate data and update policy accordingly.

LESOTHO

Country Profile

Prepared by: Dr Pulane M. Tlebere, Ministry of Health and Social Welfare (presenter) and Dr T. Mootosi

Epidemiology

- The information that has been gathered is based on data from the Queen Elizabeth II (QEII) Hospital, where most women with cervical cancer are referred.
- Cervical cancer is the second most common diagnosis upon admittance to the QEII.
- The peak age of presentation is 50-59 years of age, but in 1997 women as young as 19 presented with late-stage cervical cancer.

Screening Currently Available

- Pap smears—24,865 Paps were taken between 1993 and 1997.

Treatment

- There are no treatment facilities in Lesotho; all patients are referred to Pelonomi Hospital in South Africa.
- Follow-up is erratic and there are no clear guides to palliative care.

Current Policy

[No policy information was presented. -*Ed.*]

Challenges to Cervical Cancer Programme

- Staff shortages: histology results take up to three months to be reported.
  - No cytopathologists.
  - Only four cytotechnicians.

- Follow-up is erratic and there are no clear guidelines for palliative care.
- Treatment is costly.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Research and Evaluation
   - Gather more epidemiological data.
   - KAP and behaviour coverage.
   - Establish a cancer registry.

2) Policies and Guidelines
   - Establish policy on cervical cancer as a specific item.
   - Establish protocol and guidelines for screening, diagnosis and management.
   - Integrate policy into the existing framework: MCH/FP, STD/AIDS, Adolescent Health, Safe Motherhood.
   - Establish policy on IEC and counselling.
   - Establish policy on training.
   - Establish policy on palliative care.

3) Training
   - Revise in-service training curricula.
   - Update training of trainers on screening and treatment of cervical cancer.
   - Enhance the training of technicians (on the job training).
   - Train doctors to identify precancerous lesions.
   - Integrate new materials into existing training programmes.

4) Services, including screening and treatment
   - Improve screening by VIA (include acetic acid).
   - Provide on-the-job training for screeners to filter normal smears.
   - Streamline colposcopic management and referral; incorporate treatment guidelines.
   - Improve record keeping and retrieval for follow-up.
   - Strengthen counselling.
   - Strengthen and emphasise palliative care.

5) Advocacy and IEC
   - Advocate acceptance by the task force of the need for a cervical cancer policy.
   - Advocate writing of the policy by the task force and presenting it to the MHO.
   - Develop educational materials on cervical cancer suited to different target groups.
   - Disseminate information to target groups.
   - Emphasise training of cytotechnicians and screeners: visual inspection improvements.

MALAWI

Country Profile

Prepared by: Dr Francis C. M. Sungani, Senior Lecturer/Deputy Head, Department of OBS/GYN, Chairman, National Cancer Committee-MOH (presenter), Mrs J Namasasu, Mrs Lingly Vinyo, Mrs Leslie T. Banda, Dr Angela F. Chimwaza, and Ms Lazaro

Epidemiology

[Information regarding the prevalence of the disease was not presented. *Ed.*]

- Based on the national cancer registry, the incidence of cervical cancer is fairly high in Malawi.
  - The average age is 47.3 years.
  - The incidence is highest in women ages 50-54, which is typical for a population in which no screening has taken place.

Screening Currently Available

- There is currently no screening done on a widespread basis.
- Pap smears are performed on very selected cases in hospitals.

Treatment

- Surgery is the only mode of treatment for cervical cancer available.
- Radiotherapy is available in Zimbabwe, South Africa, and Tanzania.
- The only mode of treating precancerous lesions is by cone biopsy and hysterectomies (when the woman does not want to have any more children).

Current Policy

- Stipulated policy for cancer of the cervix would be to screen every woman from age 25 to 55 years.
- Targeting younger women now, because the experience in most developing countries is that cervical cancer has an onset as early as in a female's late teens.

Challenges to Cervical Cancer Programme

- Currently there are no screening services in Family Health Services.
- The problem of cervical cancer has not yet been incorporated into the National Health Programme.
- Lack of human, material and financial resources to fully tackle the disease.
- Lack of knowledge of cervical cancer by the general population.

Future Plan

- Complete the National Policy to incorporate cancer prevention, early detection, treatment and palliative care.
- Establish means to distribute information about cervical cancer.

- Strengthen coordination of cancer-prevention efforts.
- Train health providers in methods of identification, diagnosis, treatment and palliative care.
- Include cervical cancer screening in the national training curricula.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Use the National Cancer Association (NCA) to spearhead this initiative.
     * Expand their membership to develop an interdisciplinary group, including subgroups which will work on conducting IEC, increasing awareness and building consensus in various groups (community, health cadres and policymakers).
   - Review/revise policies/guidelines for cervical cancer services.
   - Review, update, and harmonise the various health professional training curricula.
   - Review existing research for gaps and areas in which additional research is needed.
   - Integrate information into existing IEC programmes.

2) Advocacy and IEC
   - Strengthen primary prevention (existing STI programme to inform adolescents and young adults about HPV and cervical cancer).

3) Services
   - Implement a demonstration project in one district to assess the feasibility of implementing district-level and health centre screening and treatment services (all components including elaboration of a system for recording and reporting).
   - Develop a phased plan for national implementation, including in-service training needs.

4) Training
   - Implement an appropriate, updated cervical cancer-related training curriculum in both the preservice and in-service training arenas, including the development of a mechanism for coordinating professional associations, clinical faculty and instructors to ensure that the standards for training are appropriate for and can be met in the clinic setting.

5) Research and Evaluation
   - Conduct community KAP studies to determine the acceptability, modes of communication and recruitment.

MOZAMBIQUE

Country Profile

Prepared by: Dr Mario Samucidine, M.D., Resident Obstetrician and Gynaecologist, Maputo Central Hospital (presenter)

Epidemiology

- Data regarding the prevalence of cervical cancer nation wide is not yet available.

Screening Currently Available

- Pap smears, colposcopies, and biopsies are performed on the few women who are referred to the Maputo Central Hospital from private clinics.
- There is not yet a nation wide cervical cancer screening programme in place**.**

Treatment

- Cone biopsy, hysterectomy, and radiotherapy are used according to the situation.

Challenges to Cervical Cancer Programme

- The biggest challenge is the lack of information.
- Currently services are more accessible to middle- and upper-class women.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Establish policy on cervical cancer as a specific item.
   - Establish protocol and guidelines for screening diagnosis and management.
   - Integrate policy into the existing framework: MCH/FP, STD/AIDS, Adolescent Health, Safe Motherhood.
   - Establish policy on IEC and counselling.
   - Establish policy on training.
   - Establish policy on palliative care.

2) Advocacy and IEC
   - Acceptance by the task force of the need for a cervical cancer policy.
   - Policy writing by the task force and presenting it to the MOH.
   - Develop educational materials on cervical cancer suited to different target groups.
   - Disseminate information to target groups.
   - Emphasise training of cytotechnicians and screeners, using VIA improvements.

3) Research and Evaluation
   - Gather more epidemiological data.
   - KAP and behaviour coverage.
   - Establish a cancer registry.

4) Training
   - Revise in-service training curricula.
   - Update training of trainers on screening and treatment of cervical cancer.
   - Enhance the training of technicians (on the job training).
   - Train doctors to identify precancerous lesions.
   - Integrate within existing training programmes.

5) Services, including screening and treatment
   - Improve screening by VIA (include acetic acid).
   - Provide on-the-job training for screeners to filter normal smears.
   - Streamline colposcopic management and referral; incorporate treatment guidelines.
   - Improve record keeping and retrieval for follow-up.
   - Strengthen counselling.
   - Strengthen and emphasise palliative care.

RWANDA

Country Profile

Prepared by: Dr Maurice Bucagu, Dr Francis Buregeya, and Mrs Julie H. Kimonyo

Epidemiology

- Cervical cancer is the leading type of gynaecologic cancer.
- There are 40 to 50 new cases per 100,000 women per year; these figures probably underestimate the real incidence since only 41% of the population has access to health care.
- The mean age of invasive cervical cancer is 46 years; peak age is 30 to 39 years.
- Mean parity is 7 (range 1-11); 87% of patients experienced first pregnancy before the age of 20 (range 13-24 years).
- Cervical cancer appears before menopause in most cases (59%).
- Most patients come from rural areas with generally a low socio-economic status and level of education.
- Most of the patients who report to hospitals present at an invasive disease stage; a retrospective study of 57 women found no women in stage I, 27% in stage II, 33% in stage III and 40 % in stage IV. Women present at hospitals with clinical symptoms such as heavy bleeding, pelvic pain or heavy vaginal discharge.

Screening Currently Available

- There is no cervical cancer screening programme currently available.
- Pap smears are available in one referral hospital.

Treatment

- Surgery is currently the only mode of treatment available for cervical cancer. Only 10% of the patients could be operated on (radical hysterectomy).
- Conisation of the cervix is the most common method used to treat dysplasia, particularly in young women.
- Follow-up is normally done for women treated for precancerous lesions; vaginal cytologic examinations are repeated at three month intervals for two years followed by yearly examinations.

Current Policy

- A needs assessment has just been completed which should provide a starting point for a cervical cancer prevention and control programme in the country.

Challenges to Cervical Cancer Programme

- Limited resources.
- Limited access to health care.

Future Plan

- Implement a cervical cancer programme that will include:
  - A national policy and guidelines.
  - IEC and advocacy.
  - Training.
  - Affordable and reliable screening methods targeting high-risk populations.
  - A radiotherapy unit in the country.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Use feedback.
   - Form a national steering committee.
   - Perform a situation analysis.
   - Recommend policies and guidelines.
   - Integrate with reproductive health programme.

2) Advocacy and IEC
   - Identify supportive groups.
   - Provide information.
   - Disseminate information.
   - Integrate promotional and preventive messages into on-going Reproductive Health programmes.

3) Services, including screening and treatment
   - Write a pilot project proposal.
   - Implement the project.
   - Carry out mid-term evaluations and make recommendations about the subsequent steps to be taken.
   - Expand the programme.

4) Training
   - Perform a needs assessment.
   - Do a training of trainers.
   - Train staff at the operational level.

5) Research and Evaluation
   - Carry out basic data collection.
   - Set up data registry.
   - Determine relationship between HIV and invasive cervical cancer.
   - Carry out operational research in the project framework.

SOMALIA

Country Profile

Prepared by: Dr Ibrahim Osman, WHO, Mogadishu (presenter)

Epidemiology

[No information was presented. *Ed.*]

Screening Currently Available

- Due to civil war, very few organised health services have been available in most parts of the country though efforts are being made through United Nations agencies, nongovernmental organizations, and through the Joint Health Authority.
- Private laboratory screening is available at high cost (US$10 per Pap smear).

Treatment

- Patients arrive at health centres with stage II and stage III cervical cancer.
- Those in need of cervical cancer treatment are sent to other countries because there are no treatment facilities available in Somalia.

Action Plan Developed During the Conference

[Not presented because no full country team present. *Ed*.]

SOUTH AFRICA

Country Profile

Prepared by: Dr Christelle Kotzenberg, Director, Chronic Diseases, Disabilities & Geriatrics, Department of Health (presenter); Dr L. A. Denny, Dr Eta E. Equity Banda, Dr Alinah Pheya Mabote, Dr Giles Bartlett, Dr Nomonde Bam, and Dr Alex van den Heever

Epidemiology

- South Africa has a population of 37,859,000.
- South African women suffer most from cancer of the cervix, ranking among the highest in the world; total number of deaths reported: 1,105 (CSS).
- National Cancer Registry 1992 figures reported 4,469 new cases.
- Age-specific incidence rates are low in early years, but begin to rise at age 29; peak incidence is in women in their 60s.
- Crude incidence rate is 23/100,000 women.
- Lifetime risk is 1 in 30 (important population differences exist).
- Even though cancer of the cervix is underreported, incidence rates for cervical cancer in Black females have similar rates of cervical cancer to those found in the rest of Africa and other developing countries.

Screening Currently Available

- Pap smears.
- Colposcopies.

Treatment

- South Africa has well-trained health professionals; however, there are human resource disparities between rural/urban areas and public/private sectors.

Current Policy

- A National Cancer Screening Programme has been finalised. One of the main thrusts of the programme is cervical cancer screening.

Challenges to Cervical Cancer Programme

- A National Cervical Cancer Screening Programme has been developed but has not yet been approved.
- Underutilisation of resources associated with opportunistic screening.
- The perception that cervical cancer screening programme equals Pap smears; the prevention programme is too focused on Pap smears.
- Concentration of resources in academic complexes and urban areas.
- Cost and availability of transport.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Obtain approval of proposed National Cancer Control Programme from the Ministry of Health.

2) Advocacy and IEC
   - Begin advocacy and awareness raising efforts among politicians and senior health managers.

3) Services, including screening and treatment
   - Estimate the increased number of cervical cancer cases at primary, secondary, and tertiary levels.

4) Training
   - Review in-service training programmes at all levels to determine where and how to best integrate cervical cancer prevention and treatment efforts.

5) Research and Evaluation
   - Implement and integrate already approved indicators in plan.

SWAZILAND

Country Profile

Prepared by: Mrs E. T. Dlamini and Dr Maureen Magagula

Epidemiology

- [No data were presented. *Ed.*]

Screening Currently Available

- Pap smears are performed on an irregular basis; the Family Life Association does many Pap smears.
- Cone biopsy has been offered.
- There is one Swazi obstetrician gynaecologist, who is in private practice and inaccessible to the ordinary citizen.

Treatment

- Most patients present with advanced cervical cancer, but if they present with abnormal Pap smears they are offered surgery, usually a total hysterectomy.
- No radiotherapy facilities are available in Swaziland; treatment is available in South Africa, but is very expensive and most patients cannot afford it.
- Most, if not all, of those who present with advanced cervical cancer are referred to Hospice at Home (NGO) for palliative care.

Challenges to Cervical Cancer Programme

- At times there is a lack of fixative agents available for Pap smears, and clients are temporarily turned away, which may discourage them from returning.
- There is only one pathologist in Swaziland, and there is no colposcope available.
- Cone biopsies are performed for very few clients because follow-up is difficult and there is a high turnover of doctors. Swaziland is highly dependent on foreign doctors, who work on a contract basis and leave at the end of their contracts.
- Challenges to effective screening include: lack of trained personnel and a high turnover among those that are trained.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Research and Evaluation
   - Carry out basic research to determine the needs of the country.
   - Determine if referral systems are functional.

- Set up laboratory standards and quality assurance.
- Identify indicators for evaluation.
- Carry out evaluation research.

2) Advocacy and IEC
   - Develop IEC materials together with the task force and programme coordinators.
   - Begin advocacy among health workers, i.e., laboratory staff, nurses and doctors.
   - Solicit advocacy of women at political and policy making levels.
   - Disseminate IEC materials and education materials.
   - Establish a regional IEC network.

3) Policies and Guidelines
   - Sensitise policymakers in the MOHSW.
   - Develop the policy as a ministry.
   - Disseminate the policy to the service providers for input.
   - Collect input from service providers and put documents together.
   - Hold meeting of stakeholders to finalise document.
   - Sensitise and explain document to parliamentarians.

4) Training
   - Identify training needs for the country.
   - Develop training curricula for the different cadres for both in-service and preservice training.
   - Carry out training in different cadres.
   - Ensure that at least the minimum standards are met.
   - Update the skills of the trainers.

5) Services, including screening and treatment
   - Make sure that both screening and treatment are in place.
   - Monitor to make sure that the available services are accessible and functioning.
   - Integrate and implement guidelines into existing facilities.
   - Monitor and control facilities.
   - Evaluate facilities.

TANZANIA

Country Profile

Prepared by: Dr Edward Ngwalle, Muhimbili University College of Health Sciences, (presenter); Dr Siriel Massawe, Dr Margaret Nyambo, Dr Rosina Lipyoga, Dr Hulda Lugoe, Dr Kessyi Florian Mathias, and Dr Joseph Mashati

Epidemiology

- Absence of proper registries makes it difficult to obtain accurate estimates of the prevalence of cervical cancer; estimates ranging from 5/100,000 to 20.1/100,000 or more have been reported.
- Available institutional figures from Muhimbili Medical Centre and Ocean Road Cancer Institute (ORCI), where patients from all over the country are referred for cytological confirmation and therapy, leave no doubt that cervical cancer is an important cause for admissions; of the 2,911 gynaecological admissions to Muhimbili Medical Centre in 1997, 632 (22%) were due to cervical cancer—this was the number one cause of admission.
- The Central Pathology Laboratory at Muhimbili Medical Centre reported that in 1994 16% of a total of 5,496 specimens were due to cervical neoplasia.
- ORCI, where all patients with invasive cervical cancer are referred for radiotherapy, reported that between 1992 and 1994 cervical cancer patients constituted 45% of all admissions.

Screening Currently Available

- Pap smear: Basic equipment for obtaining Pap smears is available in 95% of the 40 primary health care facilities surveyed in Tanzania; there is no cytotechnician training programme; screening for cervical cancer is opportunistic.
- Colposcopic services in public hospitals are nonexistent; there are two private hospitals with colposcopes, one in the capital and one in the south.

Treatment

- Treatment is carried out at a few tertiary referral hospitals, but few patients are operated on because few present in the early stages of the disease.
- Most patients are referred to ORCI for palliative radiotherapy because of the advanced stage of their disease.
- For both treatment modalities, patients are followed up regularly in their respective clinics.
- In public services, treatment and follow-up of precancerous cervical lesions are not systematic because Pap smears are done as the opportunity arises; total abdominal hysterectomy, cone biopsies and LEEP procedures are done for cervical intraepithelial neoplasia.

Future Plan

- Conduct epidemiological, community-based studies to establish the magnitude of the problem, possible risk and causal factors for preventive strategies and impact evaluation.
- Improve infrastructure and interregional communication systems, as well as health units at all levels.
- Create awareness among the general public, women, health workers and policymakers through relevant NGOs and interested parties; establish an IEC Centre and prepare IEC materials on cervical cancer presentation, prevention and therapy.
- Provide comprehensive training on cervical cancer to all cadres of health personnel; train nurses, cytotechnicians, histopathologists, colposcopists and gynaecological oncologists; update the curriculum for undergraduates, postgraduates and paramedics.
- Develop a national policy on cervical cancer control and prevention and give set priorities for risk factors.
- Provide training on alternative, cost-effective cervical cancer screening methods appropriate for low-resource settings.
- Introduce national screening programmes.
- Improve the National Cancer Institute, so that it can provide: cervical cancer screening, diagnostic services and appropriate therapy; appropriate trained personnel, such as a clinical oncologist, cytotechnicians and histopathologists; an oncology preventive unit at the Institute which will include nurses, cured cervical cancer patients, an epidemiologist, sociologists, gynaecologists, general practitioners and other interested parties.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Gather and use existing information to justify that
     - Cervical cancer is a problem.
     - Prevention is possible.
     - Mass screening has benefits and impact.
   - Create awareness among the policymakers and all interested parties such as the Ministry of Health, NGOs, donors, women's groups, community leaders, and related professionals, and incorporate these groups into the Tanzania Technical Team in Cervical Cancer.

2) Advocacy and IEC
   - Perform a needs assessment for IEC and advocacy and identification of target groups; establish needs for each target group.

3) Services, including screening and treatment
   - Update in-service training curricula for health service providers regarding:
     - the need for counselling at all levels and examining the woman as a whole,

- available screening skills and treatment options for CIN and invasive cervical cancer,
- the strengthening of broken-down referral systems,
- an update on proper record keeping and
- the need to accommodate the expected increased workload.

4) Training
   - Create a country training task force which will put more emphasis on preservice training for cervical cancer, change the training method into more practical aspects of the available screening and treatment options for CIN and invasive cervical cancer.
   - Acquire and disseminate updated teaching materials appropriate to the different training centres of different cadres.

5) Research and Evaluation
   - Collect basic data on epidemiology, starting a cancer registry.
   - Review existing literature.
   - Form regional multisectoral co-ordination groups.
   - Collect data on cervical cancer case fatality rates and 5-year survival rates.
   - Update policy accordingly.

UGANDA

Country Profile

Prepared by: Dr Samuel Kaggwa, Makerere University Medical School, (presenter); Mrs R. Bamutire, Mrs R. Kakande, Dr S. Matatu, Mrs C. A. Ekochu, Prof E. M. Kaijuka, Mrs F. Kalikwani, and Mr P. Kaggwa

Epidemiology

- Cervical cancer is the leading gynaecological cancer in Uganda, accounting for 80% of all cases.
- Cervical cancer constitutes 40% of all cases registered in the cancer registry and at the radiotherapy unit.
- Cervical cancer is attacking an increasingly younger population. Women ages 21-30 now constitute up to 20 % of cervical cancer cases.
- Most patients present in advanced state, 90% being stage II to IV (when curative treatment is no longer an option).

Screening Currently Available

- Cervical cancer screening is inadequate at all levels of health care in the country.

- 70% of public health care facilities are equipped for pelvic examination and Pap smears, but they are not being performed.
- At district, provincial and tertiary facilities they are fully equipped to diagnose cervical cancer, but only tertiary hospitals can process Pap smears.

Treatment

- Treatment facilities for precancerous lesions, particularly cryotherapy, are not yet sufficient.
- There are radiotherapy treatment centres in the country, but they do not meet the needs of the population; 10% of facilities provided palliative care for advanced cervical cancer.
- 45% of district facilities and all tertiary facilities have facilities for cone biopsies.
- 55% of provincial units and 75% of tertiary units offer radical surgery for treatment.
- Radiotherapy is available at 25% of district units.
- 75% of the tertiary facilities have radiotherapists or cytopathologists.
- Palliative care is universally available.

Current Policy

- 25% of tertiary units have some institutional guidelines.

Challenges to Cervical Cancer Programme

- Shortage of staff and lack of policy guidelines lead to low screening rates.
- There are no trained colposcopists.
- Pap smears are taken by doctors only.
- 64% of district facilities lack fixatives.
- Only 5% of district and 25% of tertiary units have colposcopes.
- There is a shortage of gynaecologists, cytotechnicians and histocytopathologists at provincial hospitals; and a shortage of oncosurgeons, radiotherapists and physicists at the tertiary level.

Future Plan

- Improve screening for cervical precancer at PHC level by training nurses in screening.
- Provide adequate treatment facilities at district and provincial level (cone biopsy and crythotherapy).
- Develop a national policy guideline which addresses: 1) target ages and frequencies for screening and 2) palliative care (ensuring the availability of analgesia and supportive facilities).

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Develop a concept paper on cervical cancer prevention and control.
   - Hold consensus-building workshop.

- Develop an action plan.
- Develop and disseminate policy guidelines.

2) Advocacy and IEC
   - Conduct qualitative research.
   - Design IEC strategy.
   - Develop IEC messages and materials.
   - Disseminate IEC messages using various channels.
   - Conduct advocacy activities targeted at decision makers and women leaders through sensitisation.

3) Services, including screening and treatment
   - Strengthen existing services for screening and treatment.
   - Develop a strategy for screening and treatment.
   - Carry out screening and treatment in demonstration sites.
   - Evaluate and modify the strategy as necessary.
   - Implement the national screening and treatment programme.

4) Training
   - Develop a training strategy.
   - Develop training curricula for training of trainers.
   - Train trainers.
   - Develop training materials for different cadres.
   - Train different service providers.
   - Monitor and evaluate the training.
   - Monitor the implementation of screening and treatment programmes.

5) Research and Evaluation
   - Conduct a baseline survey on incidence and prevalence in demonstration areas.
   - Perform qualitative research on the general population's perceptions of cervical cancer.
   - Determine risk factors for cervical cancer in Uganda.
   - Determine the relationship of HIV and cervical cancer.
   - Determine the role of nursing care in palliative treatment for cervical cancer.
   - Evaluate the cervical cancer programme.

ZAMBIA

Country Profile

Prepared by: Dr Gricella Mkumba, Lecturer, Department of OBS/GYN, University Teaching Hospital, (presenter) and E. Bweuoe

Epidemiology

- Cervical cancer is the leading cause of cancer death among women.
- Most women do not seek Pap smears due to lack of information or means of accessing services.
- Data regarding the prevalence of cervical cancer in Zambia is not available.
- In 1995 there were 650 new cases reported.

Screening Currently Available

- While there is no structured screening programme in the Zambia, the elite who are well informed and can afford them ask for yearly Pap smears.

Treatment

- Most Zambian women present in the advanced stages of the disease.
- Women are sent to Zimbabwe or South Africa for treatment; many women have died while awaiting radiotherapy.
- Early stage patients have radical hysterectomies with lymph node sampling; this treatment is available at four hospitals where there are gynaecologists.
- University Teaching Hospital will soon acquire a colposcope.

Current Policy

- The Ministry of Health has already included cervical cancer screening in the Reproductive Health policy document for all levels of health care.

Challenges to Cervical Cancer Programme

- Cultural inhibitions.
- Lack of trained cytologists and pathologists.
- Lack of treatment options for CIN (only cautery and cold knife biopsy are available).
- There are only two colposcopes available in the country.
- The number of Pap smears taken each year has dropped due to: the expense for both government and patients, lack of cytologists, lack of a campaign for Pap smears, the difficulty in carrying out research to compare false-positive and false-negative results and lack of alternatives to Pap smears in many clinics.
- Radiotherapy is not available in Zambia.
- Politicians' difficulty in understanding the importance of screening; lack of funding for screening.

Future Plan

- Educate the public.
- Make cervical cancer screening one of the primary health care priorities in the Zambia.
- Find the funds to implement recommendations.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Review the cervical cancer policy currently in the Family Planning Document.
   - Develop guidelines for screening, diagnosis, treatment and palliative care.
   - Develop a policy on the age range and frequency of screening.
   - Develop a policy for the integration of cervical cancer screening in other devices.
   - Incorporate the two-stage screening model, including VIA and Pap smear.
   - Advocate for policy for yearly returns to a centre for cervical cancer.

2) Advocacy and IEC
   - Create a population-based cancer registry.
   - Develop workshops for policymakers and politicians.
   - Develop acceptable IEC materials on cervical cancer.
   - Sensitise women in NGOs and women activists on cervical cancer.
   - Conduct massive campaigns on cervical cancer "Prevention, Recognition and Management".

3) Services, including screening and treatment
   - Assess the quality and strength of the existing services.
   - Integrate the services at the PHC level in all existing programmes.
   - Sensitise providers on the use of VIA for two-stage detection and treatment.
   - Obtain facilities for treatment of HGSIL, cervical cancer and palliative care.
   - Monitor and evaluate the new services and quality assurance.

4) Training
   - Review and develop curricula for the various groups.
   - Conduct a training of trainers for the various groups involved in the screening.
   - Train the medical officers on colposcopy, conisation, LEEP, cryotherapy and hysterectomy procedures.
   - Train health providers in VIA and counselling skills.

5) Research and Evaluation
   - Perform situation analysis.

- Carry out a needs assessment—for both service providers and community providers.
- Assess available screening methods and logistics.
- Assess modalities and efficacy of treatment methods.
- Evaluate research system and follow-up system.

ZIMBABWE

Country Profile

Prepared by: Mrs Bernita Msike, Ministry of Health & Child Welfare, (presenter); Dr Z. Michael Chirenje, Mr Simbarashe Rusakaniko, Dr Innocent Hove, and Dr Sheece Mashange

Epidemiology

- Cancer of the cervix is a major public health problem in Zimbabwe, from both a clinical and social point of view.
- Cancer of the cervix is responsible for a third of all cancers reported in Zimbabwe. The incidence rate is 67 per 100,000 which according to Basset et al (1995) is the highest ever recorded in Africa.
- The majority of cervical cancer cases are diagnosed in the 30 to 50 years age range.

Screening Currently Available

- Pap smears are accessible only to a small section of the population who are urban based; there are currently only ten technologists at the National Cytology Services; screening is opportunistic.
- Colposcopy is performed on a select group of women found with abnormal smears and is available only at tertiary hospitals.
- Histology is used to confirm cancerous changes; it is done at Harare Hospital and Mpilo Hospital in Bulawayo; there are problems of follow-up as well as a shortage of histopathologists.

Treatment

- Pre-Cancer
  - The majority of cases are treated by cone biopsy and some electro-diathermy. Hysterectomy is used for CIN III with fibroids or when a woman is certain she does not want any more children, and where there is a problem of follow-up.
- Cancer
  - Surgery is performed at the tertiary level.
  - Radiotherapy is used but is available only in Harare and Bulawayo.
  - Chemotherapy is used for recurrent cancer of the cervix.

- The majority of women present with late-stage cancer, and for this reason, a Palliative Care Programme is being developed much faster than the other activities; a training programme has already been carried out at the provincial level and a second phase is planned for this year; the Ministry of Health and Child Welfare is working very closely with Island Hospice in its Palliative Care Programme.

Current Policy

- The Ministry of Health and Child Welfare acknowledges in its Corporate Plan that cancer (amongst other noncommunicable diseases) is a major public health problem in Zimbabwe. The plan also acknowledges the limitation of existing resources and interventions. In the National Health Strategy document for Zimbabwe (1997-2000) the Ministry of Health acknowledges that very little has been done in tackling the cancer problem from a pubic health approach through early detection and diagnosis.

Future Plan

- The Ministry of Health is committed to "arresting the rise in and, where possible, further reducing mortality and morbidity due to major disease problems, especially those that are preventable" (National Strategy 1997-2000). A Ten-Year Plan has been developed in which a plan for the prevention and control of cancer of the cervix is enunciated. The main components of the plan include the implementation of a comprehensive screening programme to be coordinated by the Maternal and Child Health Department as an integral part of the safe motherhood programme and a focus on reproductive health. The main objective is to screen 80% of women aged 30 to 60 years at least once in their lifetime.
- Objectives for Implementation
  - To educate women on the value of screening and encourage them, especially those at high risk to be screened.
  - To carry out health education awareness campaigns to raise recognition of early signs and symptoms.
  - To establish a clear policy for screening of women who are over the age of 30 years.
- Strategies
  - Identify women age 30 to 60 who are at risk.
  - Train village health workers to use a checklist for high-risk groups and to refer if indicated; train primary health worker to examine the cervix and take smears for gynaecological examinations; train cytotechnicians and cytopathologists.
  - Ensure the availability of equipment for smears and gynaecological examinations.
  - Establish good quality laboratories at the provincial level.
  - Ensure the link between identification of abnormality and referral for diagnosis, treatment and follow-up.
  - Encourage women to have inspection of the cervix and Pap smears every 3 to 5 years, where facilities are available.
  - Establish posts for cytotechnicians and cytopathologists at the provincial level.

Action Plan Developed During the Conference

Activities, in order of priority:

1) Policies and Guidelines
   - Give feedback to PCCZ and CCC on the outcome of the Nairobi meeting.
   - Meet with the Minister of Health, Secretary of Health, UZ, City of Harare, EDC, MCH, IEC and nursing departments to recommend intervention study on VIA.
   - Review Reproductive Health Policy on cervical cancer.
   - Put cervical cancer policy in place.

2) Advocacy and IEC
   - Set up a task force for IEC activities made up of members of the Health Education department, the NAFP, Island Hospital, Cancer Centre and the Cancer Association of Zimbabwe, who will then plan strategies and review available IEC material.
   - Conduct KAP study for health centre workers and the community.
   - Conduct awareness campaign in pilot districts using IEC materials recommended above.

3) Services, including screening and treatment
   - Conduct an intervention study in a pilot province to examine screening, diagnosis, treatment and recall.
   - Strengthen palliative treatment at all levels.
   - Provide resources—drugs, trained manpower, equipment—for screening, diagnosis and long-term treatment.

4) Training
   - Conduct in-service training on VIA for health centre workers to facilitate conduction of the intervention study.
   - Train doctors to perform cone biopsies, LEEP, colposcopy and cryotherapy at the district and provincial levels.
   - Train cytotechnicians and cytopathologists for provincial-level services.

5) Research and Evaluation
   - Conduct epidemiological studies on rural women.
   - Conduct study on efficacy and safety of available treatment in Zimbabwe.
   - Conduct impact study on coverage.
   - Evaluate VIA intervention at province and district levels.
   - Strengthen the national cancer registry.

Reports from Issue Breakout Sessions

Participants divided into breakout discussion groups. The following reports represent the summaries of those group discussions as they were reported to the rest of the meeting. Some recommendations were modified after discussion and not all were accepted by the larger body.

Group 1. Policy

Goal: to determine changes in policies and guidelines to highlight the problem of cervical cancer.

Recommendations:

1. All females aged between *x* and *y* years (country-specific ranges dependent on peak age, in general beginning 10 years earlier than peak age for cervical cancer and up to about age 50 years) should be screened every 5 years; the first screening should be free.

2. Screening services should be available at PHC, district, provincial and tertiary levels, and screening at primary level should be by nurse or clinical officer (therefore, the human resource and infrastructure should be available).

3. Treatment for precancerous lesions should be available at district, provincial or tertiary level and, therefore, resources need to be provided.

4. Every patient who needs referral should be provided with a warrant to travel to the referral centre.

5. Screening should be integrated with family planning, postnatal, STI and health/growth monitoring clinics, and patients should be discharged through screening clinics.

6. Increase awareness on preventive aspects of the diseases of life styles, integrated with other clinics of reproductive health and among the youth in schools, etc.

7. Every hospital should send quarterly or yearly returns to a resource centre for cervical cancer under the National Task Force for Cervical Cancer.

8. Screening services should be by visual inspection with acetic acid (VIA), with Pap smear on any cervix deemed abnormal by VIA, then referred (the two-stage screening model).

Note that all the activities recommended above would need resources and, therefore, governments should (re-)allocate resources for their implementation.

Group 2. Advocacy and IEC (Information, Education, and Communication)

Goal: to determine key IEC and advocacy actions that will result in a better understanding and support for cervical cancer prevention programmes.

Recommendations:

1. Conduct qualitative research/needs assessment to determine what kind of IEC strategy will meet the country's needs.

2. Establish a local task force to develop an IEC/advocacy strategy for the country.

3. Involve women at the highest level in advocating for policies and programmes for women's reproductive health.

4. Forge linkages with local and international NGOs/agencies to provide technical support and resources to implement IEC/advocacy strategies.

5. Train service providers in counselling skills and provide support and materials in counselling and educating the public.

6. Integrate promotional and preventive messages into ongoing reproductive health programmes.

7. Establish a regional IEC network for cervical cancer for countries to assist each other in implementation of IEC/advocacy strategies.

Group 3. Services: Screening and Treatment

Goal: to identify major issues to be addressed in establishing appropriate cervical cancer prevention and management programmes.

Recommendations:

1. For a successful screening programme five components must be in place:
   - IEC
   - Screening
   - Diagnosis and treatment
   - Monitoring
   - Evaluation

2. Screening services should be integrated at the primary health care level into already existing programmes. Services at secondary and tertiary facilities may be more vertical due to technical requirements.

Services that should be provided at different levels:

At PHC:	Speculum exam
Integrated	Counselling
	Highly sensitive screening test
	Referral system
	Records
	Follow-up systems
	Palliative care for cancer
Secondary:	Treatment of precancerous lesions of the cervix
	More specific screening test
	Diagnostic capability
	Palliative care
Tertiary:	Quality assurance
	Setting standards/guidelines
	Cancer registry
	Histopathology
	Treatment of cervical cancer

For each of the above, the who and how needs to be decided by individual programmes.

3. All five components (listed in number 1 above) must be provided where services are available. If referral systems are not available or distances between primary and secondary facilities are too great, all five should be available at the PHC site.

4. There are three models:
   - See and treat (using VIA or VIAM)
   - See and refer, for functional referral systems
   - Two-stage screen and treat

These are implementation study models and should be demonstrated as projects before adoption in national programmes.

In the East and Southern Africa region (ESA) it is recommended that screening begin at a younger age, approximately 10 years prior to documented peak age incidence for cervical cancer, and should not go beyond 50-69 years of age; with an aim to screen at least once in a lifetime.

Group 4. Service: Training

Goal: to determine key interventions that will result in an increased and appropriate training of health workers to deal with cervical cancer prevention and management programmes.

Recommendations:

1. Establish an interdisciplinary group that reflects a national/regional focus, to review medical and paramedical curricula, define and implement baseline research and coordinate with man-power development.

2. Ensure minimum screening skills for basic nurse and above: speculum examination, VIA, Pap smear taking, bimanual examination and management through retesting, referral, treatment, and palliative care. Medical officers at district level and above: colposcopy, conisation, LEEP, cryotherapy and hysterectomy, if necessary.

3. Professional bodies need to continually ensure that minimum standards of training and practice are updated to reflect "on-the-ground" reality; this would be ensured by linkages between training institutions and clinical training sites and service points.

4. Working through a critical mass of trained trainers (TOTs), district-level training should focus on PHC facilities (these are often the first point of contact for women with the health care system) for maximum impact of screening; district level and above training will focus on clinical officers, physician assistants and medical officers for all treatment modalities except radiotherapy; referral facilities will have the highest level of screening and management.

5. Preservice training should be funded by national governments; and in-service training will plug into existing appropriate training/service programmes (e.g., MCH/FP, STI programmes). Advocacy will be focused more on co-ordination to maximise training resources.

Group 5. Research and Evaluation

Goal: to determine and meet the information needs of policymakers and programme managers to implement appropriate cervical cancer prevention and management programmes.

Each country will need to decide on which research topics should be covered, according to its own situation.

Basic data
1. Need to collect: epidemiology, cancer registry, service statistics.
2. Need inventory of existing literature and research material, e.g. KAP; qualitative research.
3. Situation analysis: facilities; equipment; personnel; other related programmes.

Operational research questions

1. Consider which methods are most suitable; health workers and their KAP; motivation of health workers; KAP of women regarding health care and proposed methods; treatment methods available, their feasibility, appropriateness and acceptability; at which levels in the health system should various screening and treatment modalities be available.
2. How to recruit and mobilise; where are the women who need to be reached; IEC: what, how, by whom and target population.
3. Referral systems: information flow; functional follow-up systems.
4. Quality assurance in laboratories.

Scientific research questions

1. Risk factors, using case-control methods.
2. Treatment modalities (cryotherapy and LEEP): efficacy and safety.
3. Cervical cancer/HIV interaction.
4. More research on VIA (specificity and sensitivity, definition of positive and negative, training standards).

Evaluation and monitoring

- Need to identify indicators, e.g. by age groups, compliance to referral, compliance and acceptance of treatment, incidence of recurrence after treatment (this would also evaluate efficacy of treatment), stage and age distribution.
- Evaluate operating processes frequently.

Recommendations

1. Co-ordination of research efforts is needed especially within the region.

2. Different scientific research topics still need attention:
   - Risk factors for cervical cancer.
   - Standardisation of treatments.
   - Effectiveness of treatment.

3. Programmes can be put in place (using existing evidence) in demonstration projects (action/operation research)

4. Countries need to put a basic population-based cancer registry in place.

Research needs to involve other sectors and be multidisciplinary and multisectoral**.**

Discussion (Rapporteurs: Dr Lucy Muchiri, Dr Leah Kirumbi, Dr Hugo de Vuyst)

A few additional comments and clarifications were offered during the session.

- The cervical cancer policy should fit within the national reproductive health policy.
- A policy on palliative care is needed that includes morphine availability at the local level and training for health workers.
- If screening is done at each contact, it is necessary to have cards to show when the last screening occurred.
- Dr Denny called for a resolution to phase out radical surgery and move to out-patient treatment for dysplasia, including using LEEP outside hospital settings.
- Dr Kiyoga disagreed with the call for free screening, saying it was not feasible, and suggested a small fee be charged. Others suggested that free screening be reserved for those who cannot pay, while insurance should cover it where it exists. Dr Ngwalle suggested that social scientists should be consulted, since free services are sometimes viewed as being unimportant or without value.
- Dr Ojwang called for the standardisation of training curricula. CRHCS is now in the process of harmonising nursing curricula.
- Mr Rusakaniko called for greater involvement of men.
- Dr Claeys cautioned that if screening were only done once in a lifetime, doing it at age 25 would be too early to catch most cervical cancer. Dr Denny reiterated her concern that screening should begin no more than 10 years earlier than the peak incidence of invasive cervical cancer, when that peak age is based on representative population-based data.

Each organisation was asked to comment briefly on (1) what it is doing or has done in cervical cancer (CC activities), (2) what it is interested in or able to support in this area, (3) what types of resources it has and (4) how to access its resources. The organisations are listed in alphabetical order.

AVSC International. A nonprofit organisation providing technical assistance in reproductive health services. They have offices in 17 countries and work in more than 45 countries, including the United States. Their work is funded by USAID, other bilateral and multilateral donors, and private donors. Their goals are to improve the technical and programmatic quality of clinic-based services related to reproductive health.

CC Activities. Activities include support to the Cancer Association of South Africa and Columbia University for an evaluation of four screening methods for the detection of cervical cancer which will lead to the determination of sensitivity and specificity of screening tests.
AVSC collaborates with PATH and JHPIEGO to coordinate information and activities in regard to cervical cancer.
Interests. AVSC will begin service delivery research in collaboration with South African and U.S. organisations designed to determine how best to integrate cervical cancer screening modalities into ongoing service programmes.
Resources. AVSC is not a donor agency but can share information on cervical cancer activities, for example: family planning clinics and maternity wards, MCH units, male wards and operating theatres.
Contact. Dr Pamela F. Lynam (see Participants List for address).

Belgian Aid Development Cooperation (BADC). Reproductive health has recently been recognised as a priority issue for BADC. A reproductive health component is being introduced in all new development projects. Moreover, the BADC has agreed to support some specific reproductive health programmes.

Contact. Dr Marc de Maegd (see Participants List for address).

Canadian International Development Agency (CIDA). CIDA supports two major projects in Kenya: Gender Equity Support Project (GESP) and Canada Fund for Local Initiatives (CFLI). GESP deals mainly with capacity building for women through various NGOs, empowering women and getting them to take part in decision making. CFLI supports local initiatives and strives to uplift the living standards of the community. In the health sector, with the University of Manitoba, and in collaboration with University of Nairobi, CIDA has two projects:
1) strengthening STD/HIV/AIDS control in Kenya, and 2) supporting the Regional AIDS Training Network (RATN); both are located at the Kenyatta National Hospital. CIDA is interested in making improvements in women's issues and civil education and promoting local initiatives.

CC Activities. None so far.
Interests. Would have to be within the context of current programmes.

Resources. Funds up to $50,000 for each initiative; the fund is administered by the coordinators, with the High Commissioner's approval.
Contact. Berther Keskach (GESP-Kenya); Rosemary Murio (CFLI-Kenya); Lilly Omondi (CFLI-Somalia); (the contacts listed above can be reached through the CIDA address under Ms. Cecily Nyaga on the Participants List).

Commonwealth Regional Health Community Secretariat (CRHCS). A regional cooperation organisation for East, Central and Southern Africa whose goals are: advocacy, brokerage and catalyst.

CC Activities. CRHCS has helped organise and fund a multicountry situation analysis on cervical cancer and has been a leader within Africa in raising awareness of the issue. CRHCS currently is compiling an inventory of expertise available in the region, including NGOs and technical assistance agencies; working with ECSACON on the training curriculum for nurses in the region; disseminating information from various groups in meetings and regional fora and linking in-country experts with policymakers.
Interests. Its areas of interest include capacity building in research, training and programme development; policy development; bringing health policy issues to the attention of health ministers; advocating for research evidence to be turned into policy; sharing expertise with others in the region; promoting exchange of resources; sponsoring participation in workshops, training and short study tours.
Resources. CRHCS assists with fund-raising, coordinating multicountry studies, serving as a clearinghouse and organising networks.
Contact. Dr Winnie Mpanju-Shumbusho (see Participants List for address).

Department For International Development (DFID). The foreign assistance agency for the British Government, which has an interest in human development primarily in the fields of education, health/population and social development. They are committed to poverty alleviation, which is central to all their activities; five key themes in their work are: communicable diseases, sexual and reproductive health, environmental health, water and sanitation and health in unstable areas.

CC Activities. Currently very little is being done in the area of cervical cancer, except having provided funds for this cervical cancer meeting.
Interests. Just starting.
Resources. They can support workshops, small-scale demonstration projects, research, training programmes and regional programmes.
Contact. In South Africa: Julean Lambert in Pretoria (j-lambert@dfid.gtnet.gov.uk); in East Africa: Carolyn Sergeant, Office at British High Commission, Upper Hill Road, Nairobi, Kenya (c-sergeant@dfid.gtnet.gov.uk); in Central Africa: Stewart Tyson in Harare (s-tyson@dfid.gtnet.gov.uk); Kenya-based Programmes: Clare Dockerhill, PVO Office, Bruce House, P. O. Box 30465, Nairobi, Kenya, (c-dockerhill@dfid.gtnet.gov.uk).

International Agency for Research in Cancer (IARC). This is a research organisation within the framework of the World Health Organization whose goals are to develop and coordinate *research* particularly focused on the epidemiology of cancer, the study of potential carcinogens in the human environment and prevention and early detection of cancer, and to respond to requests to establish national *cancer registries*. IARC programmes cover over 120 countries world wide and 28 countries in Africa, providing facilities for training and offering scholarships for manpower development and setting up national cancer control programmes.

CC Activities. IARC has conducted research in cervical cancer in Asia, Europe and Latin America.
Interests. Additional research on aetiology, screening methods and other programme strategies.
Resources. In regards to funding, IARC has its own core funds, $48 million biannually. They can provide technical and financial assistance for research and cancer registries and training. Countries can access support from IARC in two ways: as part of a response to global needs for cancer research, or by regional request (sub-Saharan Africa is taking priority right now).
Contact. Dr R. Sankaranarayanan (see Participants List for address).

INTRAH. A U.S. agency (based at the University of North Carolina) which provides assistance in capacity building, support for skills development and improvement aimed at quality assurance. It provides technical assistance in training, develops policy guidelines and screening strategies and expands reproductive health services, moving from family planning to reproductive health.

CC Activities. None so far.
Interests. INTRAH's interests include development and updating of policy guidelines, reproductive health curricula and materials and piloting training modules; providing design of technical assistance and service provision strategies for cervical cancer training and service needs assessment; country-specific capacity building for training and service provision; collaborating in research and implementation/demonstration studies for screening diagnosis and prevention and control of cervical cancer at primary health care settings and collaborating in establishing quality assurance systems for quality screening diagnosis and palliative treatment.
Resources. Through INTRAH's collaborative work and experience in working with donors, they can help generate resources and support of activities through advocacy with USAID missions, REDSO and other donors.
Contact. Mrs Jedida Wachira (see Participants List for address).

JHPIEGO Corporation. JHPIEGO works in 40 countries and is primarily funded by USAID. They provide technical assistance in education and training for reproductive health.

CC Activities. Conducted focused workshops in Baltimore in 1994 and 1997 and published reports from them. Funded a study in Zimbabwe on VIA and provided technical assistance with training, data analysis and synthesis of results. Have developed training materials on VIA, including a colour atlas. JHPIEGO collaborates with PATH, AVSC and USAID in the Cervical Cancer Consultative Group.

Interests. Improved training for screening and treatment in low-resource settings; demonstration projects.
Resources. ReproLine; cervical cancer screening training materials; technical assistance and possibly funding for demonstration intervention projects on cervical cancer screening and treatment.
Contact. Dr Sue Brechin, Dr Harshad Sanghvi (see Participants List for address).

Pathfinder International. This is an international NGO whose mission is to increase women's access to high-quality reproductive health services. Pathfinder is committed to implementing the recommendations of ICPD from the Cairo and Beijing meetings. It provides technical support, initiates reproductive health interventions and works with different country teams to identify how to fit reproductive cancers into the USAID results framework using currently available resources.

CC Activities. Pathfinder has always advocated for Pap smear screening in family planning programmes.
Resources. Pathfinder could support pilot projects to demonstrate appropriateness and feasibility of certain interventions, provide technical assistance to strengthen the integration initiative and phase in cervical screening and promote visual inspection in clinics and incorporate VIA training into existing training.
Contact. Dr Wilson Kisubi (see Participants List for address).

Population Council. The Population Council is an international research organisation that works through various governments and NGOs to research and address critical issues in reproductive health (including best practices and quality of care), to improve the well being of populations and to influence policy change where necessary. It also offers technical assistance to governments and organisations to enable the building of research capacities. Cervical cancer falls within their mandate to address critical issues in reproductive health.

CC Activities. None so far.
Resources. Technical assistance; help in developing proposals and approaching donors.
Contact. Dr Esther Muia (see Participants List for address).

PATH (Program for Appropriate Technology in Health). PATH is an international NGO with offices in nine countries world wide (including Kenya). PATH's mission is to improve health, especially the health of women and children. PATH identifies, develops, and applies appropriate and innovative solutions to public health problems, especially in low-resource settings.

CC Activities. Since it began its cervical cancer programme in 1992, PATH has carried out a wide range of activities including:

- Preparation and dissemination of technical and policy documents.
- Qualitative research on women's attitudes and knowledge regarding cervical cancer and screening.
- Field evaluation of visual inspection, including development of research protocols, collection and analysis of data and dissemination of results.

- Development of the AviScope™ device for magnified visual inspection.
- Collaboration with AVSC, JHPIEGO and USAID in the Cervical Cancer Consultative Group.
- Technical assistance on programme design and evaluation.
- Maintenance of a electronic mail listserv on cervical cancer issues.
- Organisation of international meetings on cervical cancer.

Interests. Qualitative research on women's attitudes to screening and treatment and evaluation of new screening approaches.
Resources. Technical assistance in qualitative research and the development of IEC materials and strategies; a few samples of the AviScope device may be made available to selected people who can carry out field evaluations; 1-3 small seed grants (<US$5000 each) may be made available to help country teams get started (contingent on funding approval that is currently pending).
Contact. Dr Pamela Greene (see Participants List for address).

United Nations Population Fund (UNFPA). UNFPA is interested in all components of reproductive health, which includes control and management of cervical cancer. UNFPA is currently supporting the following areas in ECSA: reproductive health programmes, such as family planning and safe motherhood initiatives; post-abortion care; STD/HIV/AIDS prevention; adolescent health programmes; elimination of female genital mutilation; population and development activities and advocacy for the promotion of gender equity.

CC Activities. Support of participants at this meeting.
Interests. UNFPA is interested in all components of reproductive health, which includes control and management of cervical cancer.
Resources. Financial support to reproductive health programmes through the Central Government, NGOs, and recognised institutions, to be used for procurement of equipment, contraceptives, STD drugs, vehicles, research, construction of health care facilities, fellowships and scholarships; technical assistance, through country support teams based in Harare and Ethiopia.
Contact. UNFPA offices in respective countries (see Participants List for addresses).

USAID/REDSO. The Regional Economic Development Support Office (REDSO) is an agency within USAID. It provides technical assistance to USAID offices and projects in the region in all technical areas and supports regional initiatives for tackling common problems. Areas identified for support include: health care financing; integration of HIV/AIDS education and information into family planning and maternal and child health; and quality of care assurance.

CC Activities. REDSO is involved in increasing awareness and providing basic information, e.g., by sponsoring five participants for the ESA Cervical Cancer meeting, by including cervical cancer in a course for Mission health officers and by sponsoring the Harare conference on standard and guidelines in June 1998.
Interests. Quality of care issues.
Resources. Provide technical assistance (especially South-to-South consultancies); supporting regional workshops, training and occasional pilot programmes; sponsoring participants for meetings, conferences, and training and sharing of information and lessons learnt.

Contact. Melinda Wilson, REDSO Population and Health Office, P. O. Box 30261, Nairobi, Kenya, telephone (254-2) 75163, fax (254-2) 743204, or through Cooperating Agencies such as AVSC, JHPIEGO or Pathfinder International.

University of Ghent. The University of Ghent has an International Centre for Reproductive Health that conducts operations research and demonstration projects; they can assist in mobilising funds, especially from the European Union.

CC Activities. Research on visual inspection in Kenya.
Interests. Research.
Resources. Technical assistance and research collaboration; assistance for country teams who want to start demonstration projects and to develop a multicenter proposal for submission to the research unit of the European Commission.
Contact. Dr Patricia Claeys (see Participants List for address).

Final Resolutions and Recommendations

Following is a list of final recommendations made at the meeting. Follow-up activities including dissemination of the meeting report, advocacy activities, demonstration projects, and initiation of national working groups are being planned.

Noting the high prevalence of cervical cancer in the East and Southern African region, the following resolutions were made for the implementation of cervical cancer prevention and control programmes in the ESA region:

1. Determine national policy as it pertains to:

   ⇒ National cancer control
   ⇒ National cervical cancer control
   ⇒ Commitment to integrated activities

2. Review published and unpublished data, or conduct rapid surveys, to determine:

   ⇒ Setting up of cancer registry
   ⇒ Prevalence of precancerous cervical lesions
   ⇒ Prevalence of cervical cancer
   ⇒ Local risk factors
   ⇒ Treatment efficacy and availability

3. Develop guidelines for cervical cancer control integration into programmes that consider:

   ⇒ Levels of integration
   ⇒ Who will provide services
   ⇒ Who will provide additional funding
   ⇒ How the integrated programme will link with primary, secondary and tertiary health care, and national STD/HIV control and other health programmes

4. Promote primary prevention activities by:

   ⇒ Disseminating cervical cancer information to all providers
   ⇒ Helping individual clients to determine their own risk status
   ⇒ Helping young women to recognise their risk status
   ⇒ Counselling clients on risk-minimising sex practices
   ⇒ Aggressively promoting barrier methods

5. Promote screening by simple, effective and feasible methods; use of conservative and feasible treatment methods; as well as holistic palliative care for women with advanced cancer.

6. Develop and conduct competency-based training to enable health providers:

   ⇒ To talk about sexually-related issues
   ⇒ To use screening and treatment methods appropriately and correctly
   ⇒ To use low-cost technology for diagnosis and management
   ⇒ To do counselling in all aspects of cancer control

7. Undertake essential research in cervical cancer, including:

   ⇒ The effectiveness of various methods of screening
   ⇒ Management approaches (safety, effectiveness, costs)
   ⇒ The impact of HIV on the incidence and progression of cervical cancer and on the side effects associated with dysplasia treatment

8. Develop National and Regional Centres of Excellence for:

   ⇒ Training
   ⇒ Research
   ⇒ Programme design, implementation and monitoring and evaluation
   ⇒ Reference centre for quality assurance

9. Develop mechanisms to promote the sharing of information within the region.

10. Identify or establish national-level working groups on cervical cancer in each country to coordinate efforts and advocate appropriate action.

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Meeting Agenda

ESA Regional Meeting
on Prevention & Control of Cervical Cancer
29 March-April 1, 1998
Kenya College of Communication Technology
Nairobi, Kenya

Sunday, 29 March 1998

10.00-17.00 **Arrival of delegates and Registration**

17.30-19.30 **Session 1: Opening Ceremony**

Rapporteur: **Dr Lucy Muchiri**

Welcome and introduction of chairperson	**Dr Pamela Greene**
Chairperson's remarks	**Dr Paul Chuke**
Objectives and organisation of workshop	**Dr Harshad Sanghvi**
From Research to Policy and Programme Actions The Role of the CRHCS in cervical cancer prevention and control in ECSA	**Dr Winnie Mpanju-Shumbusho**

Keynote Address
A vision for the control and prevention of Cervical Cancer — **Prof. Japheth Mati**

Chairman's closing remarks

Cocktails

Monday, 30 March 1998

8.00-8.30 Introduction of participants — **Dr H. Sanghvi**

8.30-10.30 **Session 2: Screening for Cervical Cancer in Low-Resource Settings**

Chairperson: **Prof. Kaijuka**
Co-Chairperson: **Dr Pamela Lynam**
Rapporteur: **Dr Stella Abwao**

Review of currently available screening tests	**Dr Harshad Sanghvi**
Zimbabwe cervical cancer screening study	**Dr Z.M. Chirenje**
Khayelitsha cervical screening study	**Dr Lynette Denny**

	A two-stage screening model	**Dr Lynette Denny**
	Discussion	

10.30-11.00 TEA BREAK

11.00-13.00 Session 3: Treatment of Precancerous Lesions of the Cervix in Low-Resource Settings

Chairperson:	**Dr Mike Chirenje**
Co-Chairperson:	**Dr Leah Kirumbi**
Rapporteur:	**Ms. Maryjane Lacoste**

Options for treatment of precancerous lesions of the cervix	**Dr Edward Ngwalle**
Experience with treatment of precancerous lesions of the cervix in Kenya	**Dr Khama Rogo**
Treatment experiences in low-resource settings	**Dr Harshad Sanghvi**

Discussion

13.00-14.00 LUNCH

14.00-16.00 Session 4: Programmatic Issues

Chairperson:	**Dr Christelle Kotzenberg**
Co-Chairperson:	**Dr Lucy Muchiri**
Rapporteur:	**Ms. Kathy Shapiro**

Situation analysis of cervical cancer in ESA	**Dr Z. M. Chirenje**
Programme approaches towards cervical cancer control in low-resource settings	**Dr Vivien Tsu**
Cost considerations for national screening and treatment programmes	**Dr Alex Van den Heever**

Discussion

16.00-16.30 TEA BREAK

16.30-18.00 Session 5: Poster Session/Demonstrations/Individual Discussions with Experts

Chairperson:	**Dr Edward Ngwalle**
Co-Chairperson:	**Dr Hugo de Vuyst**
Rapporteur:	**Dr Leah Kirumbi**

18.30 **Rapporteurs meeting**

Tuesday, 31 March 1998

8.30-9.00 **Review of previous day's proceedings**

9.00-10.30 **Session 6: Country Experiences**

Chairperson:	**Dr Khama Rogo**
Co-Chairperson:	**Dr Stella Abwao**
Rapporteurs:	**Mr Maina Kiranga**
	Dr Wilson Kisubi

Botswana	Rwanda
Eritrea	Somalia
Ethiopia	South Africa
Kenya	Swaziland
Lesotho	Tanzania
Malawi	Uganda
Mozambique	Zambia
Namibia	Zimbabwe

10.30-11.00 **TEA BREAK**

11.00-12.00 **Session 6: Country Experiences-continued**

Discussion

12.00-12.30 **Session 7: Introduction to Breakout Session**

Group 1:	Policies	**Dr Leah Kirumbi**
Group 2:	Advocacy and IEC	**Dr Pamela Greene**
Group 3:	Services: Screening & Treatment	**Dr Harshad Sanghvi**
Group 4:	Services: Training	**Dr Sue Brechin**
Group 5:	Research and Evaluation	**Dr Patricia Claeys/ Dr Vivien Tsu**

12.30-13.30 **WORKING LUNCH**

13.30-15.30 **Session 7: Breakout Session-Continued**

15.30-16.00 **TEA BREAK**

16.00-17.30 Session 8: Reports from Breakout Sessions

Chairperson:	**Dr Francis Sungani**
Co-Chairperson:	**Dr Harshad Sanghvi**
Rapporteurs:	**Dr Lucy Muchiri**
	Dr Leah Kirumbi
	Dr Hugo de Vuyst

Group 1: Policies
Group 2: Advocacy and IEC
Group 3: Services: Screening and treatment
Group 4: Services: Training
Group 5: Research and Evaluation

Discussion

17.30-18.00 Rapporteurs meeting

18.00-19.00 Session 9: Country Team Meetings

Countries	**Facilitator**
Kenya	**Ms. Katherine Shapiro**
Malawi	**Dr Sue Brechin**
Rwanda	**Dr Patricia Claeys**
South Africa	**Ms. Karen Beattie**
Tanzania	**Dr Leah Kirumbi**, **Dr Pamela Lynam**
Uganda	**Ms. Maryjane Lacoste**
Zimbabwe	**Dr Stella Abwao**
Botswana, Eritrea, Ethiopia, Lesotho, Mozambique, Somalia, Swaziland, Zambia, Namibia	**Feddis Mumba/Dr Sankaranarayanan**

18.00-19.00 Donors and Technical Assistance Agencies Meeting

Chairperson:	**Mr Ray Kirkland/REDSO**
Rapporteurs:	**Dr Harshad Sanghvi**
	Dr Pamela Greene

Wednesday, 1 April 1998

8.30-8.45: Review of previous day's work - Dr Lucy Muchiri

8:45-9:45 **Session 10: Resources Available from Regional, Bilateral and Multilateral Agencies**

Chairperson:	**UNFPA/WHO representative**
Co-Chairperson:	**Mr Ray Kirkland, USAID/REDSO**
Rapporteur:	**Dr Nancy Kidula**
	Mr Maina Kiranga

Presentation of short statements

9.45-10.30 **Session 11: Breakout Session: Development of Country Action Plans**

10.30-11.00 **WORKING TEA BREAK**

11.00-13.00 **Session 11: Development of Country Action Plans Continued**

13.00-14.00 **LUNCH**

14.00-16.00 **Session 12: Presentation of Country Plans**

Chairperson:	**Prof. Japheth Mati**
Co-Chairperson:	**Dr Pamela Greene**
Rapporteur:	**Dr Leah Kirumbi**
	Dr Wilson Kisubi

16.00-17.00 **Session 13: Final Resolutions and Recommendations**

Chairperson:	**Dr Winnie Mpanju-Shumbusho**
Co-Chairperson:	**Dr Harshad Sanghvi**
Rapporteurs:	**Ms. Kathy Shapiro**
	Dr Stella Abwao

19.30 **CLOSING DINNER (Grand Regency Hotel)**

Speakers:

Chairperson	**Dr Winnie Mpanju-Shumbusho**
Conference Rapporteur	**Dr Harshad Sanghvi**
Guest Speaker:	**Dr Florence Manguyu**
Closing Address:	**Dr Hassan Muhamed**
Vote of Thanks:	**Dr Stella Abwao**

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